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The Viability of Water Privatization in Sub-Saharan Africa

An Honors Thesis Presented

by

Kelsey W. Burke

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Table of Contents

| | |
|--|----|
| Abstract | 4 |
| Introduction | 5 |
| Chapter One: The Global Water Crisis | 6 |
| Health | 8 |
| Education | 11 |
| Gender Equity | 12 |
| Economics | 13 |
| Conclusion | 14 |
| Chapter Two: A History of Privatization | 15 |
| Economic Climate 1980-1990 | 15 |
| Privatization of Services | 17 |
| Privatization Process | 19 |
| The Privatization of Water | 21 |
| Arguments for and Against Privatization | 23 |
| Private Sector Participation: Efficiency or Profit | 23 |
| Economic Good or Human Right | 25 |
| Water Pricing | 26 |
| Impact on Employment | 28 |
| Conclusion | 29 |
| Chapter Three: The Players in the Privatization Process | 30 |
| The World Bank | 30 |
| Water Privatization Companies (Suez and Veolia) | 32 |
| National Governments | 36 |
| Citizens | 37 |
| Conclusion | 39 |
| Chapter Four: SSA Country Case Studies | 40 |
| <i>Case One: Water Privatization in Guinea</i> | 42 |
| Water Sector Prior to Privatization | 42 |
| Privatization Model | 44 |
| Financing Privatization | 46 |
| Changes After Privatization | 47 |
| Water Sector Today | 52 |
| <i>Case Two: Water Privatization in Senegal</i> | 54 |
| Water Sector Prior to Privatization | 54 |
| Privatization Model | 56 |

| | |
|--|----|
| Financing Privatization | 59 |
| Changes After Privatization | 61 |
| Addressing the Needs of the Poor | 64 |
| Water Sector Today | 65 |
| <i>Case Three: Water Privatization in Ghana</i> | 67 |
| Water Sector Prior to Privatization | 67 |
| Privatization Model | 71 |
| Financing Privatization | 72 |
| Changes After Privatization | 74 |
| Water Sector Today | 75 |
| Chapter Five: Findings | 76 |
| <i>Conditions for Privatization</i> | 76 |
| Planning | 76 |
| Contract Type | 77 |
| Regulation | 78 |
| World Bank Project Selection | 79 |
| World Bank Financial Support | 79 |
| Full Cost Recovery | 80 |
| Social Dimension | 80 |
| Public Support | 81 |
| Understanding the Individual Needs of the Sector | 82 |
| <i>Debates Over Privatization</i> | 82 |
| Efficiency or Profit | 82 |
| Economic Good or Human Right | 83 |
| Water Pricing | 84 |
| Impact on Employment | 84 |
| Conclusion | 85 |
| Appendix | 87 |
| Bibliography | 90 |

Abstract

Lack of accessible clean water impacts millions of people around the world. Throughout the 1990s, the privatization of developing countries' water sectors was seen as a way to improve inefficient and ineffective water service. While many of the privatization projects failed, it is important to assess the possibility of learning from these mistakes, and better utilizing private sector support as a tool to address global water deficiencies. I set out to show that water privatization can be an effective tool to address urban water needs if the process is conducted correctly. Through the completion of three case studies, I am able to learn from the successes and failures of past projects. The knowledge learned from these studies shows that the way in which a privatization is undertaken greatly affects the outcome of the project. The paper concludes that while privatization could greatly improve the lives of citizens living in urban areas who suffer from water deficiencies, privatization will not greatly influence the water crisis due to the inability to implement the process in rural areas.

Introduction

This thesis will attempt to assess the viability of water privatization as a policy tool to address water issues in Sub-Saharan Africa. Privatization was pushed by the World Bank throughout the 1990s, but often failed to bring about the expected improvements. This thesis seeks to see if water privatization is a poor model, or a model that if altered, could help to address global water deficiencies.

This paper will look at the history of the privatization of water resources in order to learn from past projects. Chapter One lays out the current water problems faced by millions around the world. It focuses on urban issues as well as issues specific to the region of Sub-Saharan Africa. This discussion of the current situation illustrates the need for major policy and investment in order to address global water deficiencies. Chapter Two looks at the history of privatization with special focus on the privatization of water. Chapter Three examines the major players within the privatization process. Chapter Four looks at three case studies of countries in Sub-Saharan Africa that privatized their water services. The countries are Guinea, Senegal, and Ghana. Chapter Five presents the findings from the case studies, and makes suggestions for conditions that if met would make future privatizations more successful. The information learned from the case studies will show that while privatization will not be a solution for the global water crisis, if implemented effectively, it could serve as a policy tool to help address urban water deficiencies.

Chapter One: The Global Water Crisis

Labeling the current global water situation as anything other than a crisis would be to downplay the severity of the problem. Globally, 780 million people lack access to clean water. This deficiency, and the subsequent diseases caused by the use of unsafe water, results in roughly 3.41 million deaths per year.¹ These numbers can be hard to fathom in a world that seems to be covered in water. Of all of the water on the planet, only 2.5 percent is freshwater. Of this, roughly 70 percent is locked in ice caps, 30 percent is stored underground, and only 0.3 percent of water is easily accessible in rivers and lakes.² While working to conserve our freshwater resources is an important aspect to consider, currently the focus should be on the unequal distribution and allocation of this fresh water. People without readily available access to fresh water, and without the infrastructure to access water underground, must often walk miles in order to secure enough water for all their needs. In urban areas, people rarely have to walk far distances to collect their water, but often are forced to pay high prices to access the resource.

The region of Sub-Saharan Africa (SSA) provides the greatest insight into these water issues. While most regions throughout the world have seen great improvement in water coverage, SSA currently stands at only 61 percent of the region having access to an improved drinking water source.³ An improved drinking source is defined by the WHO/UNICEF Joint Monitoring Program (JMP) as, “one that, by nature of its construction or through active intervention, is protected from outside contamination, in particular from contamination with

¹"Water Facts." *Water.org*. N.p., 2013. Web. 28 Apr. 2013. <<http://water.org/water-crisis/water-facts/water/>>.

² "Water Resources." *UN Water*. The United Nations, n.d. Web. 28 Apr. 2013. <http://www.unwater.org/statistics_res.html>.

³ *Progress on Drinking Water and Sanitation 2012 Update*. Rep. UNICEF/WHO, 2012. 4. Web. 28 Apr. 2013. <<http://www.unicef.org/media/files/JMPreport2012.pdf>>.

faecal matter.”⁴ Additionally, of all the inhabitants of SSA, only 16 percent have access to piped water on their premises, the lowest percentage of any region in the world.⁵

Due to the economic cost of supplying a large number of people with the service, the privatization of water resources can only occur in urban areas. In rural areas, people are too widely dispersed to make water extension economically attractive to private companies. Due to this, this thesis will focus on urban water issues. The United Nations (UN) projects that as of 2011, 47 percent of the population in the developing world lived in urban areas. This number is expected to increase to 64 percent of the total population by 2050.⁶ Improved water supply coverage is high in urban areas at 96 percent with 80 percent of the population having access to piped water connections. While these numbers are good, it is important to note that between 1990 and 2010 the global urban population saw the number of people using an unapproved water source increase from 109 to 130 million people.⁷ This shows that as the global urban population continues to grow, there must be continued investment in urban areas even if coverage seems to be high. It is especially important to look at the poorest urban dwellers who are more likely to lack access to water supply and rely on unimproved sources.

While it seems that the urban population has a high level of water coverage, when the JMP looked at 35 countries in SSA (84 percent of the total regional population), and broke the averages down into quintiles based on wealth, a different story emerged. It was found that in urban areas, 94 percent of the richest quintile has access to an improved water source while the

⁴ "Introduction." *WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation*. JMP, 2010. Web. 28 Apr. 2013. <<http://www.wssinfo.org/definitions-methods/introduction/>>.

⁵ Ibid., p. 8

⁶ *World Urbanization Prospects The 2011 Revision*. Rep. Department of Economic and Social Affairs, Mar. 2012. 2. Web. 28 Apr. 2013. <http://esa.un.org/unup/pdf/WUP2011_Highlights.pdf>.

⁷ *Progress on Drinking Water and Sanitation 2012 Update*, p. 12

poorest quintile has only 64 percent coverage.⁸ What this breakdown shows is that while the global urban population does have a higher level of coverage compared to the global rural population, when the numbers are broken down based on region and income the urban population still has many issues that must still be addressed.

The lack of access to water across SSA results in many difficulties including issues with health, education, gender equity, and economic development. It is only when all of these issues are viewed holistically that the full burden faced by those without access can be completely understood.

Health

One of the greatest burdens faced by those without clean water is the impact on their health. Numerous diseases, including diarrhea, pneumonia, Guinea Worm, Cholera, and Schistosomiasis are all caused by lack of clean water. Additionally, many health issues are indirectly hurt by poor water. Malaria, caused by mosquitoes, is supported by the presence of sitting water. Also, people with HIV/AIDS are more susceptible to water related diseases and have a more difficult time recovering from such infections.⁹ Many of these diseases are more common in rural areas, but urban areas also see pneumonia and diarrhea as major problems. This is especially true in informal settlements where there is a high population density with limited services.

The high prevalence of these diseases has an incredible influence on economics. Globally, if the Millennium Development Goal (MDG) of cutting in half the number of people

⁸ *Progress on Drinking Water and Sanitation 2012 Update*, p. 29

⁹ "Common Water and Sanitation-related Diseases." *Unicef.org*. UNICEF, 17 June 2003. Web. 28 Apr. 2013. <http://www.unicef.org/wash/index_wes_related.html>.

without access to basic water and sanitation was met, there would be a savings of seven billion dollars in the health sector.¹⁰ If improvements occurred beyond the MDGs, and basic access to water and sanitation was extended across SSA, US \$610 million, or seven percent of the region's total costs, would be cut from the regional health costs.¹¹ These savings, coupled with increases in productivity in the workforce and extended life expectancy, could dramatically alter the economic landscape of the region.

Children living without access to clean water face the greatest health struggles, especially those under the age of five years old. Globally, pneumonia (18 percent) is the leading cause of death for children under five years old. Not far behind is diarrhea (11 percent), which is the third leading cause of death.¹² In a survey conducted in 2008, Africa had 4.199 million deaths of children under the age of five. Of those, 19 percent were caused by diarrhea and 18 percent were caused pneumonia.¹³ These problems are more significant in SSA, where a child under the age of five is 16.5 percent more likely to die before their fifth birthday than their peers in developed regions.¹⁴

With improved water for drinking, and an emphasis on hand washing, many of these pneumonia and diarrheal cases could be prevented. The World Health Organization (WHO) estimates that if the MDG of cutting in half those without access to clean water and basic

¹⁰ Sanctuary, M., H. Tropp, and A. Berntell. *Making Water a Part of Economic Development*. Rep. Stockholm International Water Institute, n.d. 33. Web. 28 Apr. 2013.

<http://www.who.int/water_sanitation_health/waterandmacroecon.pdf>.

¹¹ *Human Development Report 2006*. Rep. United Nations Development Programme, 2006. 43. Web. 28 Apr. 2013. <<http://hdr.undp.org/en/media/HDR06-complete.pdf>>.

¹² "Children: Reducing Mortality." *who.int*. World Health Organization, Sept. 2012. Web. 28 Apr. 2013. <<http://www.who.int/mediacentre/factsheets/fs178/en/index.html>>.

¹³ Black, Robert E., et al. *Global, Regional, and National Causes of Child Mortality in 2008: A Systematic Analysis*. Rep. Child Health Epidemiology Reference Group of WHO and UNICEF, 12 May 2012. 7. Web. 28 Apr. 2013. <http://wwwlive.who.int/immunization_monitoring/diseases/Lancet_2010_withAppendix.pdf>.

¹⁴ "Children: Reducing Mortality"

sanitation was met, there would be a global reduction in diarrheal cases of about ten percent.¹⁵

Additionally, a study was done to assess the cost-benefit of different levels of intervention in the water and sanitation sectors. The study found that if the MDG was met, and the number of people without access to improved water and sanitation was cut in half, the value of deaths avoided due to intervention would be US \$3.56 billion/year in future earnings.¹⁶

Looking at the Disability Adjusted Life Year (DALY) statistic helps to quantify just how much of an impact improvements in the water sector can have on health. The WHO defines:

One DALY [can be thought of] as one lost year of "healthy" life. The sum of these DALYs across the population, or the burden of disease, can be thought of as a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability.¹⁷

Due to poor water, and the closely related issue of inadequate sanitation, being associated with so many different diseases, the number of DALYs are high. The WHO estimates that diseases caused by poor water and sanitation result in 60 million DALYs every year. This accounts for four percent of the total global DALYs.¹⁸ Looking at the time saved from illness can help to measure the costs and benefits of improving infrastructural. Due to the high cost associated with water and sanitation infrastructure, it is important to assess the associated benefit of the project prior to implementation. In a study conducted for the WHO, it was found that when viewed in terms of the days saved from illness, both in terms of working and schooling, the cost benefit of water and sanitation improvements was high across all regions and types of intervention. It was

¹⁵ "Costs and Benefits of Water and Sanitation Improvements at the Global Level (Evaluation of The)." *WHO*. World Health Organization, 2004. Web. 28 Apr. 2013.
<http://www.who.int/water_sanitation_health/wsh0404summary/en/index.html>.

¹⁶ Hutton, Guy, and Laurence Haller. *Evaluation of the Costs and Benefits of Water and Sanitation Improvements at the Global Level*. Rep. World Health Organization, 2004. 33-34. Web. 28 Apr. 2013.
<http://www.who.int/water_sanitation_health/wsh0404.pdf>.

¹⁷ "Metrics: Disability-Adjusted Life Year (DALY)." *Who.int*. World Health Organization, 2013. Web. 28 Apr. 2013. <http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/>.

¹⁸ *Human Development Report 2006*, p. 45

estimated that a US \$1 investment would yield a return of between US \$5 and US \$11 depending on region and type of intervention.¹⁹

Education

While young children face great health risks due to lack of clean water, when they do make it past their fifth birthday, health issues caused by lack of accessible and clean water results in roughly 443 million school days lost every year.²⁰ This is significant because it has been shown that educated households benefit from faster reductions in poverty and increased growth when compared to uneducated households.²¹ If the water crisis, felt almost exclusively in developing countries, is hindering future household education levels, there will be a much more difficult path to development.

When children are in school, many are suffering from health issues that directly affect their ability to learn. UNICEF reports that there are millions of children around the world who are either unable to attend school, or are present but unproductive, due to water related diseases.²² This issue of missing school is significant because too many school days lost can result in students dropping out. Intervention could make a significant difference as it has been found that if the MDG was met, and half the people without access to improved water and sanitation gained access, 272 million school days would be gained per year solely from the decreased prevalence of diarrhea.²³

¹⁹ Hutton and Haller, p. 39

²⁰ *Human Development Report 2006*, p. 6

²¹ Appleton, Simon. *Education, Incomes and Poverty in Uganda in the 1990s*. Publication. Centre for Research in Economic Development and International Trade, University of Nottingham, Dec. 2001. 4. Web. 28 Apr. 2013. <<http://www.nottingham.ac.uk/credit/documents/papers/01-22.pdf>>.

²² Sanctuary, Tropp and Berntell, p. 14

²³ Hutton and Haller, p. 29

Girls are at a high risk for dropping out of school due to lack of water supply and sanitation facilities. When girls reach puberty, they often are forced to miss school due to their educational settings not having the necessary sanitation facilities. Without access to a separate and private space, girls stay home. This eventually adds up to a large number of school days missed and it becomes difficult, if not impossible, to catch up on missed material.²⁴ This only adds to the educational achievement gap often found between boys and girls.

All of the issues discussed show the strong connection between water deficiencies and education. Around the world, children are being kept from school due to insufficient water and sanitation services. If this were addressed, the issues of an uneducated future workforce and gender inequality would both be addressed. While it was discussed that girls are disproportionately impacted by lack of accessible water and sanitation facilities in the education setting, they also face other issues in the sector due to their gender.

Gender Equity

When a community lacks an accessible water source, the burden falls especially hard on women. The most common issue is the need to walk to collect their family's daily water needs. A survey of 25 SSA countries found that in 71 percent of families without an accessible water source, women and girls were the primary family members responsible for water collection.²⁵ This need to collect water is more prevalent in rural areas, where water sources are far apart. In urban areas, women have fewer challenges finding an accessible water point, but their gender still impacts their experience in the sector.

²⁴ "Gender and Water, Sanitation and Hygiene(WASH)." *Unicef.org*. UNICEF, n.d. Web. 28 Apr. 2013. <http://www.unicef.org/esaro/7310_Gender_and_WASH.html>.

²⁵ *Progress on Drinking Water and Sanitation 2012 Update*, p. 31

While women face challenges, their increased participation in the water and sanitation sectors would be beneficial to future projects. A study done across 88 communities, in 15 countries, found that the projects that better took into account the voices of men and women, across varied income levels, were more sustainable.²⁶ This study came from the idea that men and women, and the needs of the poor and rich, greatly differ. Women require more privacy than men and the poor have economic constraints on what they can afford to pay for services. If all voices are included in the conversation, from planning to implementation, the project will have a better chance of being sustained.

While urban women face fewer challenges than their rural counterparts, their inclusion in the water sector could greatly alter the success of projects. The needs of women must be better focused on if the water and sanitation sectors, along with overall development, are to improve.

Economics

The statistics presented above show the need for improvements, as well as the daunting task in expanding water and sanitation coverage. If the problem is viewed solely in terms of the economic implications, it is clear that there are great opportunities for gains. The WHO estimates that in order to provide all of Africa with access to improved water and sanitation it would cost US \$4.043 billion per year. While high, the economic benefit would be US \$44.036 Billion per year. This results in an annual cost/benefit ratio of 10.89.²⁷ While needed investments are high, the economic benefit felt through improvements is significantly higher. These benefits would be seen within the growth of the economy. It has been found that, “poor countries with improved

²⁶ Gross, Bruce, Christine Van Wijk, and Nilanjana Mukherjee. *Linking Sustainability with Demand, Gender and Poverty*. Rep. Water and Sanitation Program, Dec. 2000. 19. Web. 28 Apr. 2013. <http://www.wsp.org/sites/wsp.org/files/publications/global_plareport.pdf>.

²⁷ Sanctuary, Tropp and Berntell, p. 34

access to clean water and sanitation services enjoyed annual average growth of 3.7%...similarly poor countries but without improved access had average annual per capita GDP growth of only 0.1%.²⁸ The correlation between water access and economic development is clear.

Conclusion

The current global water crisis impacts the health, education, gender equity, and economics of developing countries around the world. The issue is especially problematic in SSA where lack of infrastructure and available investment prohibit any real improvements and instead leave those without access suffering. As the global population continues to grow, and water resources available remain constant, the time is now to make significant investments in the sector. One potential solution is a return to the age of water privatization that characterized the 1990s. While the projects of the 1990s are now largely seen as failures, it is important to question if the privatization of water resources can be altered and successful, or if it will only continue to perpetuate inequality and poverty. The answer to this question could greatly alter future development policy.

²⁸ Sanctuary, Tropp and Berntell, p. 40

Chapter Two: A History of Privatization

Privatization evokes strong opinions from both sides of the debate. To understand the rapid growth of privatization projects, one must go back to the 1980s and understand the economic climate of the world. By starting in the 1980s, and moving to present time, one can better understand the motives for privatizing public service sectors (ex: water, electricity, gas etc). Specifically, water privatization projects have had mixed results, but the public sentiment has been largely negative. Looking at the growth of water privatization, and the arguments for and against the process, will allow for a better understanding of how the process can better serve all parties involved.

Economic Climate 1980-1990

A recession experienced throughout the 1970s led to the 1980s and an emphasis on neoliberal policies. When President Ronald Reagan was elected to office in 1980, he sought to revert from previous administration's policies and adopt an economic policy focused on free market ideology.²⁹ The overbearing presence of government intervention in economic affairs was seen as a major factor in the problems on the 1970s. It was at this moment that people began to argue that if the government stepped back and allowed for markets to function without intervention, there would be a period of growth and an increase in the overall standard of living.³⁰ This belief was coined Neoliberalism and one of the main pillars was privatization.

²⁹ Kemp, Tom. *The Climax of Capitalism: The US Economy in the Twentieth Century*. London: Longman, 1990. 204. Print.

³⁰ Kiely, Ray. *Empire in the Age of Globalisation: US Hegemony and Neoliberal Disorder*. London: Pluto, 2005. 95. Print.

In 1989, economist John Williamson coined the term “Washington Consensus” to describe his list of ten principles that most of Washington could agree on as policy for development in Latin America. Williamson believed that the original neoliberal policies, championed by President Reagan and Prime Minister Thatcher, were largely gone with one exception: privatization.³¹ While initially the term was confined to the ten principles which were meant to be applied to a specific region, over time the “Washington Consensus” was used as a term to characterize all the neoliberal policies from the Reagan and Thatcher era. Additionally, it was used to characterize the policies of the World Bank and IMF for all developing countries rather than the one specific region.³² This highlights one of the defining issues of development policy during this time period, which was that the path to economic development was streamlined into a uniform process for all countries. Regardless of a country’s initial level of development, or its specific needs, it was believed that these policies were the solution. As can be expected, these policies were not the panacea for development ills, but in many cases left the people of developing countries worse off than they were prior to reform.³³

The policies that guided the Washington Consensus were fiscal austerity, privatization, and market liberalization. Fiscal austerity involves gaining control of spending and implementing more disciplined fiscal decision-making. Privatization, which will be discussed more in depth below, is the process of turning a previously government run sector over to private operators in an attempt to make the operations more efficient.³⁴ Finally, liberalization is, “the removal of

³¹ Williamson, John. *A Short History of the Washington Consensus*. Working paper. Institute for International Economics, 24 Sept. 2004. 2. Web. 28 Apr. 2013. <<http://www.iie.com/publications/papers/williamson0904-2.pdf>>.

³² Williamson, John. "The Washington Consensus and Beyond." *Economic and Political Weekly* 38.15 (2003): 1476. *Jstor*. Web. 28 Apr. 2013. <<http://www.jstor.org/stable/10.2307/4413431>>.

³³ Stiglitz, Joseph E. *Globalization and Its Discontents*. New York: W.W. Norton, 2002. 16. Print.

³⁴ *Ibid.*, p. 53

government interferences in financial markets, capital markets, and barriers to trade.”³⁵ In his book, *Globalization and its Discontents*, Joseph Stiglitz argues that these policies had an adverse impact on developing countries because they were pushed too far and too fast.³⁶ When looking at the case studies in Chapter Four, and the findings in Chapter Five, I concur with his belief that the pace and way in which privatization is implemented impacts the outcome of a privatization project.³⁷

The reliance on these policies exposes another theme of development, which was the frequency of policies being prescribed by the global North for the global South. This split is defined as the separation between developed and developing nations, which also corresponds to their geographic location. Development has followed a similar path where organizations of the North such as the World Bank, IMF, and other development agencies have significant power over the fragile developing countries of the South. Developing countries follow the lead of these institutions because they need help and access to capital. The problem is these organizations are led by elites who all too often are looking out for commercial and financial of the North rather than the needs of the voiceless South.³⁸

Privatization of Services

There are varying types of privatization, with differing levels of corporate control. There are three types of contracts used for the privatization of a service sector: concession, lease, and management. Under a concession contract, the private company is fully responsible for running the sector and making all needed investments. A lease contract requires that the private operator

³⁵ Ibid., p. 59

³⁶ Ibid., p. 54

³⁷ Ibid., p. 54

³⁸ Ibid., p. 18-22

run the day-to-day operations and make needed investments in existing infrastructure. The government is responsible for all new investment costs. Finally, under a management contract, the private operator manages the operations but is not responsible for any investment.³⁹ As will be seen in the three case studies, these definitions serve as guidelines, but individual projects alter the conditions of the contract for their individual needs. For the purpose of this paper, the term “privatization” will refer to any form of private participation as described above.

While each country may have unique reasons for privatization, the motives can usually be traced back to a desire to improve services, a need to alleviate government costs, and/or due to pressure from outside sources.

A country that is suffering from poor services may choose to privatize public sectors in hopes of seeing improvements. There is a generally accepted belief that private companies have access to capital, and means of investment, that allow them to infuse more money into the sector than cash-strapped governments. A World Bank study of 79 privatized firms in 21 developing countries found that profitability, efficiency, and output all increased when the firms moved from public to private ownership.⁴⁰ While the World Bank may have only chosen projects that it believed would be successful, it still shows that privatization can have a positive impact on inefficient or ineffective sectors.

Another reason a country may go through the process of privatizing its resources is that the government has limited capital and privatization allows for the government to free up money for other services and needs. When the private sector takes on some level of control and

³⁹ Barlow, Maude. *Blue Covenant: The Global Water Crisis and the Coming Battle for the Right to Water*. New York: New, 2007. 39-40 Print.

⁴⁰ Boubakri, Narjess, and Jean-Claude Cosset. *Privatization in Developing Countries*. Publication no. 156. The World Bank, Nov. 1998. 1. Web. 28 Apr. 2013.
<<http://siteresources.worldbank.org/EXTFINANCIALSECTOR/Resources/282884-1303327122200/156cosse.pdf>>.

responsibility for delivering services, it brings in capital that the government cannot afford. The same World Bank study cited above found that the capital investment to sales ratio went up from 10.5 percent to 23.7 percent after privatization.⁴¹ This illustrates the notion that when privatized, a sector has greater capital investment.

While improved services and increased capital investment are intended benefits of privatization, many countries are forced to privatize their resources under pressure from the World Bank. This pressure has come most notably under World Bank Structural Adjustment Programs (SAPs). Under these programs, the World Bank agrees to alter existing loans that developing countries cannot repay. In return for the adjustment to the loan, countries often must sell its public services to private companies.⁴² The influence of both the World Bank will be addressed more in Chapter Three when the major players of water privatization are discussed.

Privatization Process

When a government decides to privatize a previously public service, there are stages that are generally followed in order to facilitate the process. First, the government develops a plan for the privatization. It is during this stage that an outline consisting of the government and private operator's roles is formulated as well as defining the goals of privatization. The next step is to construct the details of the process. During this stage, there is more formulation on the expected outcomes and how costs will be recovered. The third step consists of picking the service operator. This process is vital in terms of future success or failure of the project. The project must be presented in a way that is attractive to the best providers in terms of their ability and fit with the country's needs. Finally, the fourth step is to manage the arrangement and actually

⁴¹ Boubakri and Cosset, p. 3

⁴² Barlow, p. 37-38

begin the era of privatization.⁴³ The better executed these four steps, the better chance of private sector success.

In looking at step three of the process, the way in which an operator is selected is important for both the validity of project and the chance of success. There are three generally utilized methods for selecting an operator. The first option is competitive bidding in which companies submit bids with an outline of their plan for the project and the cost to implement their strategy. This process is seen as the most transparent, but has the highest risk for receiving low bids in order to win the contract. Some processes use a competitive negotiations approach where negotiations go back and forth between the government and the group submitting a bid. The back and forth nature of this process results in decreased transparency, but the increased input from the government helps in reducing the possibility of low bids. Finally, the third form of choosing an operator is through direct negotiations. With direct negotiations, the process usually stems from the private provider submitting a project proposal rather than the government seeking project ideas. While costs are lowered due to the removal of the bidding component, this process is seen as the most susceptible to corruption and lack of transparency.⁴⁴

While this process was supported by the World Bank, SSA has had limited experience with privatization. The total number of privatization sales went from 175 in 1990 to 2,200 in 1998. These sales, totaled US \$9 billion, and only accounted for 3 percent of all developing countries' proceeds during the 1990s.⁴⁵ While privatization schemes have continued to develop in the region during the early years of the 21st century, SSA has much less experience with privatization than other regions. Obviously the sector has even less experience when solely

⁴³ PPIAF Staff. *Approaches to Private Sector Participation*. Herndon, VA: World Bank Publications, 2005. 18-21. Print.

⁴⁴ Ibid., p. 168-170

⁴⁵ Kikeri, Sunita, and John Nellis. *An Assessment of Privatization*. Vol. 19 No.1. The World Bank, 2004. 92. Web. 28 Apr. 2013. <<http://www.nioclibrary.ir/privatization/e008.pdf>>.

looking at water privatization. This is significant in terms of its impact on future water privatization projects. With SSA being the region most in need of water sector improvements, there are fewer cases to learn from that take into account the unique conditions of the region. This makes the small sample size of private water projects even more significant to learn from for future projects.

The Privatization of Water

The modern push to privatize water began in 1989 when British Prime Minister Margaret Thatcher sold control of the United Kingdom's water sector to private companies. The Thatcher privatization opened the door for an increase in water privatization projects around the world. Prior to the UK's water privatization, \$300 million was spent worldwide on water privatization (1984-1990). This is minimal when compared to the \$24 billion used to fund water privatization projects between 1990 and 1997.⁴⁶ After 1997, there was a clear decline in privatization projects in large part caused by financial crises in Russia, Argentina, and across Asia that resulted in decreased foreign direct investment.⁴⁷ Water projects were not spared from the crisis. After the height of investment of roughly US \$10 billion in 1997, investments in water and sanitation projects dropped and fell as low as US \$2 billion in 2001 (see Chart One in the Appendix).⁴⁸ After the financial crisis, and when economic activity and investment re-emerged, the water

⁴⁶ Rubenstein, Edwin S. *The Untapped Potential of Water Privatization*. Rep. The Hudson Institute, Oct. 2002. Web. 28 Apr. 2013. <<http://www.esrresearch.com/Theprivatewaterindustry.htm>>.

⁴⁷ Bakker, Karen J. *Privatizing Water: Governance Failure and the World's Urban Water Crisis*. Ithaca, NY: Cornell UP, 2010. 92. Print.

⁴⁸ Hukka, J.J., and T.S. Katko. *Water Privatisation Revisited*. Publication. IRC International Water and Sanitation Centre, 2003. 91. Web. 28 Apr. 2013. <http://www.bvsde.paho.org/bvsacd/cd51/op_priv.pdf>.

sector saw the least amount of funds for utilities due to the high capital-investment needed for water projects.⁴⁹

Privatization of the water sector has unique needs due to water supply being a natural monopoly. A natural monopoly exists, “when a single firm can supply a good or service to an entire market at a lower cost than could two or more firms”.⁵⁰ Water services are a prime example of a natural monopoly. Water service provision requires a large amount of infrastructure at a high cost. It is much less expensive to have one firm with one set of pipes rather than two or more firms building multiple sets of needed infrastructure.⁵¹ With only one provider for the entire service, governments must implement a system of regulation in order to ensure fair practices. It is important to note that while the case studies utilize a two firm approach (one public and one private), they are working together with one set of infrastructure. People do not have the choice between the two firms but rather must rely on the two to work together to provide one service option. When the services are privatized it is essential that there is an independent regulator to limit monopolistic power.⁵²

It should be emphasized that water privatization only occurs in urban areas. While this process has the potential to help urban citizens gain better access to water services, being a policy option solely for urban areas is problematic for a few reasons. First, as discussed in Chapter One, rural areas around the world are disproportionately impacted by lack of clean water and adequate sanitation. Rural citizens lack the connections to water sources and thus must travel great distances in order to access clean water. When privatization projects are undertaken, all finances allocated for the project are then directed to urban areas that already have access to

⁴⁹ Bakker, p. 92

⁵⁰ Mankiw, N. Gregory. *Principles of Microeconomics*. Mason, OH: Thomson/South-Western, 2004. 314. Print.

⁵¹ Ibid., p. 314

⁵² "Natural Monopolies." *Economics Online*. N.p., n.d. Web. 28 Apr. 2013.

<http://www.economicsonline.co.uk/Business_economics/Natural_monopolies.html>.

more services and more finances than their rural counterparts.⁵³ Privatization has been hailed as the solution to the water crisis but this is impossible if projects do not even target the geographic areas most in need. Instead, privatization should be assessed based on the possibility of contributing, but not solving, the global water crisis.

The growing water crisis, and high capital investment needed for water sector improvements make privatization an appealing option. That being said, the need for water in order to sustain life in a way other natural monopolies do not has made water privatization a heated debate. Both those in favor and opposed to privatization make valid points that are important to consider.

Arguments For and Against Privatization

There are numerous debates between those for, and those against, water privatization. The first debate is over whether the private sector can better manage the delivery of a service or if their desire for profit maximization hurts the sector. The second debate is over whether water should be viewed as an economic or social good. The third argument is over how water should be priced. Finally, there is debate about the impact of privatization on the labor force. Looking at these four debates helps one to understand why this is such a heated topic.

Private Sector Participation: Efficiency or Profit

One of the strongest arguments for water privatization is that up to this point governments have failed to provide the needed investment to extend and improve water

⁵³ Budds, Jessica, and Gordon McGranahan. "Are the Debates on Water Privatization Missing the Point? Experiences from Africa, Asia, and Latin America." *Environment and Urbanization* 15.2 (2003): Sage Publications. International Institute for Environment and Development, 1 Oct. 2003. 88. Web. 28 Apr. 2013. <<http://eau.sagepub.com/content/15/2/87.full.pdf+html>>.

resources. Government's inability to finance and provide extended infrastructure has left a large percentage of countries populations without the most basic water and sanitation services Those in favor of privatization argue that when a private company enters the sector, they are able to provide financing, contribute a higher level of knowledge of the sector, and provide the service across a larger area at a higher quality than the public sector.⁵⁴ While the commonly held belief that privatize companies have access to increased knowledge, capital, and management transcends sectors, the impact of this capital can only be understood when looking at individual country case studies.

A major concern of those against privatization is that a private company's primary focus is profit maximization. This leads companies to do what is in the best interest of their bottom line even if it means that the water needs of all citizens are not met. Any private company is going to enter the sector and ensure that prices are set to so that their profit margin satisfies the stakeholders within the company. This means that the short-term profit maximization is valued more than the long-term needs of the community and the sustainability of the resource.⁵⁵

The water market is attractive to corporations due to the increasing scarcity of the good. In 2003, the Palisades Global Water Index was created and is, "comprised of companies traded on stock exchanges worldwide that are positioned to benefit significantly from the escalating global demand for water and the ecological imperative of sustainable water resource governance."⁵⁶ In order to be included within the index water companies must meet three requirements:

⁵⁴ Bakker, p. 2

⁵⁵ Barlow, Maude, and Tony Clarke. *Blue Gold: The Fight to Stop the Corporate Theft of the World's Water*. New York: New, 2002. 89. Print.

⁵⁶ *Guide to the Palisades Global Water Index*. Rep. Palisades Indexes, June 2011. 3. Web. 28 Apr. 2013. <http://www.palisadesindexes.com/rulebooks/Guide_PalisadesGlobalWaterIndex_June_2011.pdf>.

- A minimum total market capitalization of US\$150 million.
- A traded volume greater than 100,000 shares for each of the prior three months.
- A minimum average daily traded value of US\$500,000 for the prior three months.⁵⁷

From inception through 2007, the growth of the index has averaged 18.7 percent every year.⁵⁸

This index illustrates the increased awareness of the growing investment opportunities connected to the water sector. There must be a balance between the private operator providing its knowledge and ensuring the company makes enough profit for the participation to be worthwhile.

Economic Good or Human Right

Advocates for privatization argue that water is an economic good, and should be treated as such. The first time water was deemed an economic good was during the 1992 International Conference on Water and the Environment (ICWE) in Dublin, Ireland. What came out of this meeting is commonly known as the Dublin Principles. The fourth principle states that, “Water has an economic value in all its competing uses and should be recognized as an economic good.”⁵⁹

This distinction as an economic good makes sense because there is a cost for ensuring water is clean and delivering that water to a source for use. Opponents of privatization argue that while water may include economic issues, there is a social component as well that private companies may ignore. Without water, humans cannot survive. It is this life sustaining nature of water that causes some to look at water as a human rights issue. This belief has been supported

⁵⁷ Ibid., p. 3-4

⁵⁸ Barlow, p. 88

⁵⁹ "The Dublin Statement on Water and Sustainable Development." International Conference on Water and the Environment, n.d. Web. 28 Apr. 2013. <<http://www.wmo.int/pages/prog/hwrp/documents/english/icwedece.html>>.

by the UN. In 2010, the UN passed a resolution that put the emphasis on water as a right. In the resolution adopted by the UN General Assembly it was stated that, “Safe and clean drinking water and sanitation is a human right essential to the full enjoyment of life and all other human rights.”⁶⁰ While this is an important step, UN General Assembly decisions are only recommendations, and while influential, cannot dictate the way in which a country abides by or rejects the decisions.⁶¹

While recognizing the importance of water as a right, there can be no denying the economic qualities of water. Finding the balance between the good as both an economic commodity and a human right has an impact on how water is delivered and at what price.

Water Pricing

The debate over whether water is an economic or social good impacts the decision over how water is priced. Many people focused on the economic aspects of water argue that water should be delivered at a level of full cost recovery. In a full cost recovery system, there are three costs that must be accounted for. First, there are the day-to-day needs to supply water often defined as the operator costs. The next cost is covering depreciation. As a system ages, it loses its value and is more likely need repair. Depreciation costs account for the potential for those needed improvements. The third cost is “return on capital” which is where funds need to be collected in order to pay interest on debt needed to build the project or a return of equity.⁶²

Around the world, countries are supplying water at a price that is below full cost recovery. This

⁶⁰ "General Assembly Declares Access to Clean Water and Sanitation Is a Human Right." *United Nations News Centre*. The United Nations, 28 July 2010. Web. 28 Apr. 2013. <<http://www.un.org/apps/news/story.asp?NewsID=35456#.UX2NWitEhho>>.

⁶¹ "Functions and Powers of the General Assembly." *General Assembly of the United Nations*. United Nations, n.d. Web. 28 Apr. 2013. <<http://www.un.org/en/ga/about/background.shtml>>.

⁶² PPIAF Staff, p. 78

means there is no capital for investment, and when infrastructure fails, there is no way to pay for needed repairs.

Others argue that supplying water at full cost recovery would leave a large percentage of the population without the ability to pay for a basic human need. One solution to concern over pricing water at an unaffordable level has been to implement subsidies. There are three ways to use subsidies in the water market. First, there is the implementation of a cross-subsidy where the revenue from some customers helps to cover the cost of other customers. Next is the implementation of a tax collected from the government. Finally, the allocation of grants from international development groups can help cut costs.⁶³ While in many places subsidies are keeping the cost of water affordable, it should be noted that in the developing world US \$45 billion is spent annually in order to subsidize water.⁶⁴ There must be a way to make the delivery of water supply more efficient and less expensive while ensuring governments do not need to utilize a large amount of their resources for subsidies. The cross subsidy and use of funds from development organizations will be assessed in two of the three case studies discussed in Chapter Four.

As with many debates, there are valid points on both sides of the argument. Water should be viewed as an economic good due to the cost of collecting and delivering the service. At the same time, it should not be ignored that water is a vital human need. As will be seen in the case studies, a balance must be struck between providing the good at a price that ensures the sector is financially stable and creating social programs so the poorest citizens still have access.

⁶³ PPIAF Staff, p. 81-83

⁶⁴ Segerfeldt, Fredrik. *Water for Sale: How Business and the Market Can Resolve the World's Water Crisis*. Washington, D.C.: Cato Institute, 2005. 45. Print.

Impact on Employment

Another issue of contention is the notion that privatization increases unemployment. This is due to the fact that government run sectors often have higher employment levels than is efficient. Due to the desire to increase overall welfare in society, extra workers are hired to the point where their marginal cost is greater than their marginal revenue.⁶⁵ This leads to a high level of inefficiency where sectors have more employees per customer than is needed. A World Bank economist argued that this is especially true for, “enterprises that have operated as monopolies with heavy government subsidies and other forms of protection.”⁶⁶ This description is especially characteristic of the water sector.

Additionally, these excess workers are often paid higher wages with greater benefits than under private sector control. The profit maximization condition of private companies ensures that private operators do not pay workers more than necessary in order to keep costs down and profits up. In many cases where wages have decreased, benefits have increased in order to make up for the wage decline.⁶⁷ These exorbitant benefits are diminished when the private sector takes over control.

While it is without argument that public enterprises often support extra laborers, at higher wages than under private sector control, the overall impact on unemployment is subject to debate. On one side, a survey of 308 privatization projects (across sectors) found that after

⁶⁵ Woods, Randall S. *The Privatization of Public Utilities: What Are the Gains? Why the Popular Opposition?* Publication. 17., 12 May 2004. Web. 28 Apr. 2013. <<http://therandyman.com/papers/privatization.pdf>>.

⁶⁶ Kikeri, Sunita. *Privatization and Labor: What Happens to Workers When Governments Divest*. Tech. The World Bank, 1998. Web. 28 Apr. 2013. <<http://rru.worldbank.org/Documents/PapersLinks/336.pdf>>.

⁶⁷ Ibid., p. 4

privatization 78.4 percent of firms reduced employment.⁶⁸ While significant, others have been quick to argue that while initially unemployment may rise, increased investment and improvement of the sector due to private control leads to increased employment in the long run.⁶⁹ Without much knowledge on length of unemployment or level of subsequent employment secured there will be continued debate on to what extent the transition to private operation impacts employment.

Conclusion

Privatization is a contentious issue that will continue to be debated. The life sustaining nature of water makes the issue of the privatization of water resources an even bigger debate than when looking at the privatization of other service sector. While governments should be providing this human need to all its citizens, the economic cost of the infrastructure needed to supply everyone with piped water is too high for countries with weak economies. This lack of capital is the case across much of SSA. Many factors intersect with this lack of capital and will be discussed when looking at the case studies in Chapter Four. First, Chapter Three will look at the major players in the process of privatization. Understanding the different motives and experiences of the most influential players in the privatization process will help to see where concessions can be made to make the most viable and create an environment with the greatest chance of success for water sector improvements.

⁶⁸ Birdsall, Nancy, and John Nellis. *Winners and Losers: Assessing the Distributional Impact of Privatization*. Publication no. Vol. 31, No. 10. Center for Global Development,, 2003. 1625. Web. 28 Apr. 2013. <http://siteresources.worldbank.org/INTPGI/Resources/13363_birdsall_nellis.pdf>.

⁶⁹ Kikeri, p. 5

Chapter Three: The Players in the Privatization Process

By looking at each group of actors in the privatization process, we can begin to understand the motives and needs that guide their decision-making. As expected, the groups with more financial power possess more influence over the structure and how the process is carried out. The groups that have the greatest need for support must give up more in order having their needs met. Finally, the people who have the most at stake, the citizens of the country, are often completely left out of the decision making process.

The World Bank

The World Bank was created in 1944 in Bretton Woods, New Hampshire as part of the Bretton Woods Conference. At the time of conception, the Bank's main focus was rebuilding Europe after World War II. When the Marshall Plan was introduced, the World Bank changed directions and began its goal of assisting developing countries.⁷⁰ It should be noted that the structure of the World Bank puts voting power in the hands of the countries that contribute the most financially. These First World countries have control over who gets loans and under what conditions those loans are granted.⁷¹ This is important because the poor must seek assistance from the rich who have their own motives to satisfy.

While many development organizations and banks have financially supported the emphasis on privatization, the World Bank's role in encouraging this process is significant. In the 1980s the World Bank switched strategies to satisfy the conditions of the Washington Consensus

⁷⁰ Alacevich, Michele. *The Political Economy of the World Bank: The Early Years*. Stanford, CA: Stanford Economics and Finance/Stanford UP, 2009. 2. Print.

⁷¹ Barlow, p. 38

discussed in Chapter Two. With this move, the World Bank began the era of Structural Adjustment Programs.⁷²

Structural Adjustment Programs (SAPs) were designed to help solve the debt problem of the Third World. These SAPs were implemented to encourage the policies of the Washington Consensus.⁷³ The International Bank for Reconstruction and Development (IBRD) is the branch of the World Bank that has the power to provide countries loans with privatization stipulations.⁷⁴ Over time, many Third World countries had borrowed money from the World Bank at low interest rates and were unable to pay-off their debt when interest rates rose. The World Bank's solution was to forgive these debts as long as the indebted country agreed to privatize its public institutions and services.⁷⁵ The countries are put into an impossible situation where they need their loans forgiven and have no real choice other than to give up their public resources.

The other branch of the World Bank involved in privatization is International Finance Corporation (IFC). The IFC provides investments and advice to the private sector in order to help it address global development issues.⁷⁶ Depending on the contract type, the private company often must commit itself to investing money in the water privatization project. Often, only a small fraction of the total amount comes from the water provider and the rest comes from the IFC and other financial groups.⁷⁷

The First World countries that control the World Bank have a lot to gain from water companies gaining access to developing countries water resources. Most notably, when a developing country needs to privatize its water supply, it is almost always a company from the

⁷² Ibid., p. 37

⁷³ Ibid., p. 38

⁷⁴ Barlow and Clarke, 161

⁷⁵ Barlow, p. 38

⁷⁶ "What We Do." *International Finance Corporation*. The World Bank, 2013. Web. 28 Apr. 2013.

<http://www1.ifc.org/wps/wcm/connect/CORP_EXT_Content/IFC_External_Corporate_Site/What+We+Do/>.

⁷⁷ Barlow and Clarke, p. 161-162

developed world that receives the job. By forcing countries to choose between privatizing their water or get rejected for loans, they set up already well off countries to profit from developing country's needs.⁷⁸ While the World Bank's work is to alleviate poverty across the world, many of the policies they maintain do more to hurt the poor and help the rich. A report found that 99 percent of the loans made throughout the 1990s called for full-cost recovery.⁷⁹ As discussed in Chapter Two, full-cost recovery, without supporting measures, results in the price of water being too high a cost for the poor to afford. While water prices need to increase, they must do so in a way that takes into account the needs of the poor.

The ultimatum set up by the World Bank for poor countries of either privatizing their services or not receiving loans makes it appear as if the elite know better than the country's own government. This leads to the discussion on why national governments privatize their water resources and what they have to gain and lose in the process of giving up their right and responsibility to provide their citizens with water. The government's motive for privatization will be discussed later in this chapter.

Water Privatization Companies (Veolia and Suez)

While the World Bank may support and promote water privatization projects, the group with the most influence on the structure and outcome of the project is the private water company that wins the bid to take over a country's water supply. For the purpose of understanding their role, we will look at the two largest private water companies, Veolia (previously called Vivendi) and Suez.

⁷⁸ Barlow, p. 38

⁷⁹ Ibid., p. 41

In 1853, Compagnie Générale des Eaux (known as Vivendi) was created by Count Henri Siméon and gained its first service contract with the city of Lyons, France. This was just one of many private companies that were created during the time of Napoleon III when they were seen as more efficient and providing a better quality service than the government.⁸⁰ This was especially important in 19th and 20th century, as more was understood about the importance of hygiene and health. A study of particular interest found that there was an increase in life expectancy of French women across three large cities from 1816 to 1905, which was largely credited to improved water and sanitation sources. This hygienic revolution continued to the point where in 1902, Paris was named the cleanest city in the world.⁸¹

While initially Vivendi only operated within France, in 1884 the company expanded beyond their borders and received their first international subsidy in Venice, Italy. This was the start of moving across Europe including other parts of Italy, Switzerland, Portugal and the Ottoman Empire.⁸² As time went on, and with improvements in water treatment, testing, and delivery, Vivendi was able to not only provide better services to the cities they were already working in but was able to expand its work. Jumping ahead to 1998, Vivendi set up “Waterforce” which is a team responsible for assisting countries and their water services after natural disasters. During the late 1990s into the 2000s Vivendi continued to expand its influence beyond France into other water markets.⁸³

In the early 2000s, Vivendi self-destructed due to issues of corruption and bribery, which resulted in lawsuits, a plummeting stock value, and the firing of many of the corporate leaders. Most notable behind these corruption claims was the issue of money handling. Over time, the

⁸⁰ "Our History." *Veolia Water*. Veolia Water, 2010. Web. 28 Apr. 2013.
<<http://www.veoliawater.com/about/history/>>.

⁸¹ Ibid.

⁸² Ibid.

⁸³ Ibid.

corporation set aside 27 billion Francs from user fees to save for maintenance needs. This money was instead used to fund poor investments and took away from funds to refurbish old infrastructure.⁸⁴

At the end of 2002, Vivendi Environment changed its name to Veolia Environment in order to separate itself from its negative past. During this time, Veolia chose to focus on contracts that required little investment on the company's part but resulted in a consistent cash flow.⁸⁵ Although the Vivendi went through a rough time, the current state is much stronger. Today, the renamed company Veolia is the leading provider of water and sanitation services with €12.6 billion in revenue and 103 million drinking water customers.⁸⁶ It is important to note that the company is currently only working in four sub-Saharan African countries (Gabon, Namibia, Niger, and South Africa) and has found minimal success across the continent. As the global water situation gets worse, Veolia has positioned itself to be a force to control another attempt at water privatization as a means for development.

The history of Suez Environment goes back to 1858 when Ferdinand de Lessep formed the company "Compagnie universelle du canal de Suez" in order to build, and later run, the Suez Canal. In 1880 Société Lyonnaise des Eaux (Lyonnaise des Eaux) was setup to provide electric and water services to the people of France and abroad. The company continued providing water and sanitation services to France in addition to expanding to new global markets. In 1997, the two companies merged to create the joint "Suez Lyonnaise des Eaux". Not long after in 2002,

⁸⁴ *Veolia Environment: A Corporate Profile*. Rep. Public Citizen, Feb. 2005. 1-2. Web. 28 Apr. 2013. <<http://www.citizen.org/documents/Vivendi-USFilter.pdf>>.

⁸⁵ *Ibid.*, p. 2

⁸⁶ "Key Figures." *Veolia Water*. Veolia Water, 2010. Web. 28 Apr. 2013. <<http://www.veoliawater.com/about/key-figures/>>.

Suez Environment was created as a way to group the water management, waste management, energy services.⁸⁷

While the prevalence of water privatization has diminished since the late 1990s, Suez has positioned itself to be one of the main service providers as the debate over the best way to provide water to the millions that go without. While Suez is also involved in communication, waste management, and energy services, water has been the fastest growing.⁸⁸ In 2011, Suez Environment made €14.8 billion (71 percent in Europe and six percent in Africa and the Middle East).⁸⁹ Having only six percent of their revenue coming from Africa and the Middle East (and no projects in SSA) shows there is room for growth as the water crisis continues. At the same time, the untapped opportunity shows that there are major difficulties in providing water services to the region. Water is a precious resource that is unrivaled in satisfying human's needs. Suez has positioned itself to ensure that if the globe reaches the tipping point where there is no choice but to return to the utilization of private resources they are one of the premiere service providers.

The role of the private water company is significant in the privatization process. During the planning stage, many governments are required to provide "financial guarantees" to the private company. These are put into place to reduce the risk of the company investing in an unstable project. Such guarantees include profit guarantees that ensure the company makes a profit no matter the outcome of service. Going further, most concessions are 20 to 30 years in length and are difficult and costly to cancel.⁹⁰ From the view of the company these conditions make sense. Entering a foreign market with great needs is risky and initial investment costly. By putting these stipulations in place the company is better able to enter the partnership feeling like

⁸⁷ "History." *Suez Environment*. N.p., n.d. Web. 28 Apr. 2013. <<http://www.suez-environnement.com/group/history/>>.

⁸⁸ Barlow and Clarke, p. 110

⁸⁹ "Key Figures."

⁹⁰ Barlow and Clarke, p. 91

they are safe while still having something to gain. From the standpoint of the national government and the citizens this just reaffirms the notion that the company is out to make a profit.

National Governments

In the 19th century, water and sanitation services were originally supplied by private companies to the wealthy who had the means to afford such luxury. As the benefits of sanitary living conditions became more well-known, governments assumed the role of water and sanitation provision.⁹¹ While the government takeover of the service was successful in many developed countries, places without the capital and institutional resources to provide such a large service failed to reach their entire population. It was during the 1970s that the division between “statist”, those who believe it is that governments are best suited to address the needs of society, and “neoliberals”, those who think that society’s needs should be addressed by private organizations that are better able to provide needed services, became more pronounced and at odds.⁹² As discussed previously, the developed world’s push for neoliberal ideology had a great impact on the practices of the global South.

While it was discussed in Chapter Two, one of the main motives of government seeking private sector support is its own inability to efficiently and effectively provide the service. Beyond this, there are numerous reasons why the government looks to privatize its water services.

One reason the government may want to privatize some services is to free up money for other sectors. By privatizing a resource, the country no longer has to spend public money to meet

⁹¹ Budds and McGranahan, p. 90-91

⁹² Ibid., p. 91

the needs of sustaining the service. Instead, after privatization they can move the money to other neglected areas of society. In many developing countries, the available public funds are limited and cannot meet all of society's needs.

In addition to not being able to fully provide the service, another motive of the government to move forward with water privatization is the need for financial help from the World Bank. As discussed in the World Bank section, when governments find themselves in debt or in need of other financial help they often turn to the World Bank. While the government has to give up a large amount of control to a sector that they previously had a hundred percent control of, they have its debt written off and/or receive the loan they need.

The transition to privatization has the opportunity to provide a lot to national governments but at a steep cost. On one hand, the government is able to secure a needed service for the people. Even in the cases where privatization has ultimately been unsuccessful, the country is left with improved infrastructure. While service may be extended, governments often end up with angry citizens who feel they have been hurt by the provision of water services from a private supplier. This can impact politics and hurt leaders who are trying to balance the needs of the country and the people.

Citizens

The most neglected group in the privatization process is also the most impacted by the transfer. Big organizations and the national governments have a say in the matter while the people who need the water, and struggle without it, rarely get a seat at the table. The citizens of the developing world suffer greatly from lack of sufficient and safe water. If privatization were the magic fix development organizations have been touting, citizens should be the group

advocating for its implementation the most. Instead, they have been vocal and vehemently against water privatization. Around the world people have spoken out, protested, and rioted against private companies entering their communities and taking over a vital resource.⁹³

The most famous of these riots was in Cochabamba, Bolivia in 1999-2000. In 1999, two mandates set the stage for one of the greatest fights for water. First, the World Bank and the International Development Bank made privatization a stipulation for a loan to the community. Next, the government enacted Law 2029, which eliminated the guarantee of water to rural areas although it had been a custom for all of time.⁹⁴ While for many this was seen as a major problem, it wasn't until the privatization began to be carried out that the people realized how disastrous this agreement was. The 40-year contract with *Agua del Tunari* guaranteed a yearly 16 percent return on investment regardless of the quality of service provided. This guarantee resulted in water bills increasing by as much as 300 percent and resulted in people unable to pay their bills.⁹⁵

In response to the private takeover of their water, the people banded together. The core leadership group was known as the *Coordinadora* and was made up of people who had stake in water supply and felt underrepresented.⁹⁶ In early November of 1999, the *Coordinadora* began a demonstration that ended up including over ten-thousand people. These series of demonstrations continued through April of 2000 and mobilized over a hundred-thousand people. After many months of difficulty, the protests ended when the *Coordinadora* came to an agreement with the

⁹³ Barlow, p. 102

⁹⁴ Olivera, Oscar, Tom Lewis, and Vandana Shiva. *¡Cochabamba!: Water War in Bolivia*. Cambridge, MA: South End, 2004. 8. Print.

⁹⁵ Ibid., p. 10-11

⁹⁶ Ibid., p. 28

government to terminate the contract with *Aguas del Tunari* and a service takeover by the municipal government with input from the *Coordinadora*.⁹⁷

What this demonstration illustrates is the passion of the issue among the people. They were not happy with the water concession and new law and refused to go unheard. Their unrelenting pressure forced the government to change the laws and do what benefited the people. A less active, but very vocal, demonstration against privatization will be reviewed in the case study on Ghana. When people who already struggle to get by are forced to adapt to excessive price increases, their voices will be heard and the government will not be able to ignore them.

Conclusion

The World Bank, private water company, national government, and the citizens all have different motives and needs when it comes water services and privatization. As would be expected, the groups with the greatest influence are the ones with the most monetary power (World Bank and Private Operator) whereas the groups with the greatest need are left to rely on the powerful (national government and citizens). While some groups may have more power, we will see in Chapter Four that the most successful privatization projects are the ones where all participating parties needs are considered and addressed.

⁹⁷ Ibid., p. 45

Chapter Four: SSA Country Case Studies

In order to assess the viability of water privatization as a solution to the global water crisis, I have conducted three case studies of countries in Sub-Saharan Africa. The three countries selected were Guinea, Senegal, and Ghana. There were a few reasons as to why these countries were chosen to evaluate.

First, one of the significant reasons these countries were chosen was because of the timeframe in which the water privatizations occurred. The privatization of water was emphasized by the World Bank throughout the 1990s. Guinea privatized its water resources from 1989 to 2001. Senegal privatized its water sector in 1996 and is still benefitting from private sector participation. Finally, Ghana privatized its water sector from 2005 to 2011. While Ghana's timeframe is outside of the original goal of looking at countries that privatized their water in the 1990s, it became important to compare past projects to one that was implemented closer to the present day.

Another reason for choosing these three countries was that they each had a unique characteristic that is important to highlight. In Guinea, the project was the first water privatization to receive support from the World Bank. This was significant because it served as the model for many future projects. In Senegal, the project was the only one studied that was very successful. This allowed for comparisons to be made to the less successful projects in Guinea and Ghana. Additionally, the innovative financial model and the strong working relationship between the government and the private operator were important aspects that could greatly influence future projects. Finally, the fact that Ghana privatized its water resources more recently served as a way to assess the current state of water privatization. Ghana also served to

illustrate the potential for the citizens of a country to organize against an unpopular reform project.

The three countries also provided examples of three different contract types. Guinea utilized a lease contract. Senegal implemented an affermage contract (an alteration of a lease contract). Finally, Ghana used a management contract. The use of different models allowed for the opportunity to assess if one option is more effective than another type of contract.

The three case studies presented provide many lessons on the water privatization process. With this information, it was possible to assess the future of the process, as well as evaluate whether it can be utilized as a tool for addressing the global water crisis.

Case One: Water Privatization in Guinea

Water Sector Prior to Privatization

Geographically, Guinea's capital city of Conakry is situated in a location where all of the community's water needs should be easily satisfied. In addition to high levels of annual rainfall, the nearby Grandes Chutes reservoir has the potential to supply 500,000 m³/day, which would be more than enough to satisfy the needs of all of Conakry. This water source is an especially attractive supply option because it is located 233 meters above sea level, which allows for the system to be gravity fed and thus supplied at a lower cost.⁹⁸

Prior to privatization, the water sector was weak with many management and structural problems. The sector was run by the public agency Enterprise Nationale de Distribution de l'Eau Guinéenne (DEG). Two of DEG's greatest issues were lack of documentation and consistent procedures. In 1985, a consultant was brought in to assess the current state of the water sector. The consultant's report concluded that an audit could not be performed because there was limited documentation about the agency's financial performance. The agency was only able to stay in operation due to subsidies and revenue from government water usage.⁹⁹

Along with financial issues, the sector was inefficient in its operations. The government had a policy that guaranteed a job to all university graduates. This resulted in DEG being greatly overstaffed with 504 employees (34 employees/1000 connections). In addition to excess

⁹⁸ Ménard, Claude, and George Clarke. *A Transitory Regime Water Supply in Conakry, Guinea*. Publication. The World Bank, Nov. 1999. 6-7. Web. 28 Apr. 2013.
<<http://elibrary.worldbank.org/docserver/download/2362.pdf?expires=1367171604&id=id&accname=guest&checksum=530280C5E40287721520CF659A10C907>>.

⁹⁹ Ménard, Claude, George Clarke, and Ana Maria Zuluaga. *The Welfare Effects of Private Sector Participation in Urban Water Supply in Guinea*. Publication. The World Bank, Nov. 1999. 5. Web. 28 Apr. 2013.
<<http://elibrary.worldbank.org/docserver/download/2361.pdf?expires=1367171892&id=id&accname=guest&checksum=F40AB4CC8A30CE86444231C54FCA11F2>>.

employees, the financial troubles of the country meant that workers across government sectors had low salaries that occasionally were not paid. This resulted in employees lacking the incentive to work efficiently and resulted in poor service.¹⁰⁰

The problems of debt and inefficient performance were compounded by low water rates, lack of metering, and limited bill collection for water delivery. The water rate was GF 10/m³ (\$0.02/m³) until 1986 when it was increased to GF 60/m³ (\$0.12/m³). This was significantly lower than the estimated marginal cost, which was perceived to be between \$0.25 and \$0.82.¹⁰¹ Additionally, it was found that in 1984, only 5 percent of all connections were metered.¹⁰² The combination of low water rates, and inaccurate billing and collecting, resulted in a financially unstable sector. Another issue in the operation was the high number of illegal connections, and aging infrastructure, which resulted in a high level of unaccounted for water (UFW). This is water that escapes through leaks or illegal connections. The 1985 consultant's report estimated that UFW was at least 60 percent.¹⁰³ This is significant because UFW cannot be billed, and thus comes at a cost to the provider, but brings in no revenue.

The operational problems experienced by DEG resulted in poor service and quality of water. At the time of privatization, there were 13,300 legal connections and 40 standpipes (free standing pipe for public water access). Estimates put water coverage at 38 percent of the city population. The coverage was likely higher as this figure does not include those receiving water from illegal connections.¹⁰⁴ Those without access to the water supply system were forced to rely on well water for their consumption. In 1992, 29 percent of Conakry solely used well water, and

¹⁰⁰ Ménard, Clarke, Zuluaga, p. 5

¹⁰¹ Ménard and Clarke, p. 8

¹⁰² Ibid., p. 9

¹⁰³ Ibid., p. 10

¹⁰⁴ Ibid., p. 7

50 percent used well water when piped service was interrupted. This is significant when coupled with the fact that 80 percent of Conakry utilized unimproved sanitation facilities, which resulted in polluted well water.¹⁰⁵ This reliance on contaminated well water is important to note because of the increased risk for health problems associated with its consumption.

Privatization Model

When the government decided to go through with privatization, many models were considered before opting for a lease contract. Under this scheme, the public sector was responsible for the infrastructure, and a company with a private majority was responsible for operating the sector.¹⁰⁶ While many privatization projects have a great deal of private sector influence, it was less prevalent in Guinea because of government unrest and a weak judicial system that had a history of difficulty with enforcing private contracts.¹⁰⁷ These conditions led to a situation where private sector participation was risky to the firms, and thus limited participation was secured.

The privatization was officially implemented in 1989. Due to the World Bank supporting the project, there were conditions that needed to be met with the setup of the privatization. First, the World Bank required that the private operator be selected through international bidding. Originally, there were six companies that submitted bids (SONEDE, TEAME, Lyonnaise des Eaux, SAUR, SAGER, and Vivendi). After this initial process, two companies dropped out, and the other four formed two consortia. The winning group was SAUR and Vivendi whose bid was 30 percent below the cost estimated by consultants.¹⁰⁸

¹⁰⁵ Ménard, Clarke, Zuluaga, p.4

¹⁰⁶ Ménard and Clarke, p. 16

¹⁰⁷ Ibid., p. 17

¹⁰⁸ Ibid., p. 18

In order to carry out the public-private partnership, two enterprises were formed. The first was the public Société Nationale des Eaux de Guinée (SONEG). The second firm was the public-private Société d'Exploitation des Eaux de Guinée (SEEG). SONEG and SEEG worked together under a 10 year lease contract. Under this type of contract, the private operator (SEEG) is responsible for the day to day operations and receives all bill payment from consumers. The operator then pays a lease fee to the public asset holder (SONEG), and keeps the rest of the revenue as payment for its work.

SONEG was completely owned by the government, and reported to a board of directors, and the Ministry of Natural Resources and Energy. There was a contract between SONEG and the government. In this contract, there were conditions on water rates, a requirement that the government pay all bills, and defined targets for the reform.¹⁰⁹ Under the terms of the lease contract with SEEG, SONEG owned all assets, was responsible for planning and implementing new investments, paying off all sector debt, and setting water rates.¹¹⁰

SEEG was jointly owned by the government of Guinea (49 percent) and the consortia of SAUR and Vivendi (51 percent). Under the lease contract, SEEG was responsible for the operational aspects of the water sector, including distribution, collection, and small-scale infrastructure. For their contribution, the government provided equipment and infrastructure. SAUR and Vivendi provided 51 percent of the startup funds which totaled US \$3 million.¹¹¹ A detailed breakdown of the contracts and responsibilities of each party can be found listed as Chart Two in the Appendix.

¹⁰⁹ Ibid., p. 20

¹¹⁰ Brook Cowen, Penelope J. *Lessons from the Guinea Water Lease*. Publication. The World Bank, Apr. 1999. 1. Web. 28 Apr. 2013. <<http://rru.worldbank.org/documents/publicpolicyjournal/078cowen.pdf>>.

¹¹¹ Ménard and Clarke, p. 21

Financing Privatization

The World Bank had been active in Guinea's water sector long before the privatization process began. The first major project was the *Conakry Water Supply and Sanitation Project* (WSP-I), which ran from April 1979 to December 1985, and provided US \$21.874 million for sector improvements. The goals of the project were, "aimed primarily at establishing Entreprise Nationale de Distribution d'Eau de Guinee (DEG) as a viable organization, at restoring a satisfactory water supply level of service and at providing appropriate sanitation to most of Conakry's population."¹¹² While some of the structural issues were improved, the management and institutional problems persisted. A lesson learned from the WSP-I, was that sector improvements would only come with, "a radical reshaping of institutional responsibilities, preferably through a degree of privatization."¹¹³

With this lesson learned, the World Bank implemented the *Second Water Supply Project* (WSP-II) in 1989. This occurred simultaneously to the privatization of the water sector. The motivation for the WSP-II was that the goals of WSP-I were not fully achieved, and this would be the second attempt at World Bank support for the sector. The World Bank cited that the WSP-II, "was structured with the main goal of creating a legal, institutional, technical, and financial framework that would constitute a sound basis for further sector development."¹¹⁴ The project provided US \$105.6 million to fund new investment, as well as rehab existing infrastructure.¹¹⁵

¹¹² *The World Bank Completion Report Republic of Guinea Conakry Water Supply and Sanitation Project*. Rep. no. 6922. The World Bank, 31 Aug. 1987. v. Web. 28 Apr. 2013. <http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/1987/08/31/000009265_3960924181802/Rendered/PDF/multi_page.pdf>.

¹¹³ *Republic of Guinea Second Water Supply Project Implementation Completion Report*. Rep. The World Bank, 30 Mar. 1998. i. Web. 28 Apr. 2013. <http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/1998/03/30/000009265_3980624164431/Rendered/PDF/multi_page.pdf>.

¹¹⁴ Ibid., p. i

¹¹⁵ Ibid., p. ii

This was a significant undertaking because it was the first World Bank project, “to support private sector participation (PSP) in the delivery of urban water services.”¹¹⁶ Being the first PSP project is important because it serves as a model for all future projects.

Changes After Privatization

After the water sector was reformed, there were improvements, although not as significant as expected during the planning process. Looking at the numerous facets of water delivery allows one to see where structural issues may have hindered improvements.

One of the greatest areas of advancement following reform was the increased investment in the sector. The primary funding for investments came from the World Bank through the previously discussed *Second Water Supply Project*. Had the sector continued to operate under DEG, there would have been no outside donor support, and the upgrades to the sector would have never happened. This project also resulted in the construction of a new treatment plant, and made the pipeline from Grande Chutes a reality. The new pipeline increased the potential water production from 54,000 m³/day in 1988 to 100,000 m³/day in 1993.¹¹⁷

While there was an increase in the number of connections in Conakry, the increase was less than expected. Coverage improved from 38 percent to 47 percent. There are two main factors cited as for why coverage improved so minimally. First, the cost to connect to the sector was so high that many citizens could not afford the investment. Second, the contractual relationship between SONEG and SEEG was constructed in such a way that many

¹¹⁶ *Guinea Third Water Supply and Sanitation Project*. Rep. no. 36083-GUI. The World Bank, 27 June 2006. 2. Web. 28 Apr. 2013. <http://www-wds.worldbank.org/external/default/WDSCContentServer/WDSP/IB/2006/07/26/000090341_20060726092636/Rend ered/PDF/36083.pdf>.

¹¹⁷ Ménard and Clarke, p. 27

responsibilities seemed to overlap, and resulted in disagreements about who was responsible for connections.¹¹⁸

An important factor in water sector development is the quality of the drinking water. This is also an area where improvements are hard to assess, as there are no records of measuring the water quality prior to reform. Even without statistical data, improvements after reform were evident in that piped water passed the standards needed for use by the local Coca-Cola bottling plant. Additionally, a 1994 study found that the chemicals and bacteria found within Conakry's drinking water met the standards of the World Health Organization (WHO).¹¹⁹

In order for the sector to be financially stable, there had to be a system of metering in order to know how much water was being consumed. Prior to privatization, this was one of the weakest areas of the sector with only five percent of consumers having a working meter. In 1996, 98 percent of private and 100 percent of government connections had working meters.¹²⁰ Metering is ineffective if there is not a system in place to bill users and collect on water metered. This area improved, but continued to struggle following reform. At the beginning of the privatization process, private consumer collection was 75 percent, but fell to 50 percent in 1991-1992, before settling at 60 percent in 1996.¹²¹ Civil servants and deputies had previously had unbilled private connections, but this practice was ended. Additionally, payment for water used by the government had been sporadic. At the beginning of the privatization process, the government paid their water bills regularly. In 1991, the government collection rate fell to 50

¹¹⁸ Bayliss, Kate. "Utility Privatization in Sub-Saharan Africa: A Case Study of Water." *The Journal of Modern African Studies* 41.04 (2003): 519. *Cambridge Journals*. Cambridge University Press, Dec. 2003. Web. 28 Apr. 2013.

<<http://journals.cambridge.org/action/displayFulltext?type=1&fid=190488&jid=MOA&volumeId=41&issueId=04&aid=190487>>.

¹¹⁹ Ménard and Clarke, p. 29

¹²⁰ Ibid., p. 30

¹²¹ Ibid., p. 31

percent, and then fell further to 10 percent in 1993. This low level of compliance was addressed and by 1996 the government payment was 80 percent.¹²²

An area that plagues many public utilities is inefficiency due to excess employees. As stated previously, prior to reform DEG had 504 employees. After reform, SEEG employed 312 workers, and SONEG had 43 workers. These cuts made the sector more productive. The two measures used to assess productivity are connections per worker and output per worker. After reform, both improved but had different outcomes in the long run. Connections per worker increased after reform, only to drop between 1994 and 1996 before increasing again. Output per worker continuously increased after reform. It is believed that the differences can be attributed to the fact that after reform revenue from water sales increased slowly whereas revenue from construction increased rapidly.¹²³

One of the main motives for privatization was DEG's poor finances. After privatization, there were strong financial improvements, which would be expected given the large increase in metering, billing, and collection. SEEG became and remained profitable posting GF 3.2 billion in profits in 1996.¹²⁴ While SEEG was financially strong, SONEG had mixed results. One of the areas of improvement was that, "SONEG's total revenues grew significantly, going from GNF 624 million in 1990 to GNF 6,026 million in 1995."¹²⁵ While revenues increased, SONEG's profits were negative, which was, "due to the sharp drop in the 'rental fee' that SEEG paid SONEG and the end of the subsidy that the government paid SONEG for debt service."¹²⁶ This was not surprising as most of SONEG's funding came from donors, rather than from within the

¹²² Ménard, Clarke, Zuluaga pp. 13

¹²³ Ibid., p. 20

¹²⁴ Ménard and Clarke, p. 32

¹²⁵ *Republic of Guinea Second Water Supply Project Implementation Completion Report*, p. 4

¹²⁶ Ménard, Clarke, Zuluaga pp. 19

sector, and because there was a great need for a large amount of spending due to needed infrastructure. This will be more of an issue when donor funding is not available.¹²⁷

The most controversial change was the increase in water prices. As discussed previously, initial rates were too low to support the needs of the sector. At the same time, increasing prices to a level of full cost recovery would be heavily felt by the people. The solution was to implement a government subsidy that would slowly diminish over a six year period. At the time of reform, prices increased from GF 60/m³ (\$0.12/m³) to 150 FG/m³ (US \$0.25/m³), which was enough to cover SEEG and SONEG's daily costs.¹²⁸ In 1996, at the end of the government subsidy, prices were expected to be 660 GNF/m³ but instead had increased to 880 GNF/m³.¹²⁹¹³⁰

Another important factor was that the cost to get connected to the system was 90,000 FG (roughly US \$90). This was very high even for wealthier citizens.¹³¹ As the intended goal of privatization should be to improve water delivery and increase connections, the high cost of both delivery and connection was alarming. If the wealthiest cannot make the investment in a piped water connection then the urban poor have no chance of gaining access to the system.

Another issue was the setup of the relationship between SONEG and SEEG. Both SONEG and SEEG were responsible for varying levels and types of investment, but differing priorities have led to disputes. The main issue was that, "Because SONEG [tended] to be more concerned with social and political goals, while SEEG [had] commercial goals, they often [disagreed] on priorities concerning network expansion."¹³² Examples of social and political goals include focusing on how decisions impact the poor, and catering to a certain group of

¹²⁷ Ibid., p. 8

¹²⁸ Ménard and Clarke pp. 8

¹²⁹ Ménard, Clarke, Zuluaga, p. 10

¹³⁰ Note: GNF, GF, and FG are all abbreviations used for Guinea Franc. For the purpose of citations they will remain the way they were written in the source cited.

¹³¹ Ménard and Clarke, p. 26

¹³² Ibid., p. 22

voters. Commercial goals are associated with the cost of providing a service and a company's bottom line. With these different motives, the two companies have had difficulty working together. With more distinct roles, and a clearer breakdown in responsibility, there would have been fewer disagreements and delays.

When disputes did occur, there was no clear protocol for filing complaints. The varying responsibilities meant that one party could use its power to retaliate against the actions of the other party. When a natural monopoly, such as water resources are privatized, most often a regulator is in place to ensure that the firm doesn't overextend its monopoly power.¹³³ In Guinea, there was no regulator and thus disputes could not be settled. One of the lessons of this privatization was that there must be, "an independent body that can enforce the contract and prevent the government from taking retaliatory action"¹³⁴ The contract setup was supposed to address this issue. With the government owning 49 percent of SEEG, it was believed that there would be a common voice between SONEG and SEEG, but instead this just resulted in more disagreements.¹³⁵

Another issue was the continued high level of UFW. In 1996, UFW was 48 percent. There are a few reasons for this high percentage. First, even after reform, there were a high number of illegal connections to the system. Also, in places where infrastructure has not been improved, there is a greater chance for broken pipes and leaks. While a high level of UFW illustrates that the sector has room for improvement, little was done to address the problem. This can be traced back to the contract between SONEG and SEEG. SEEG paid a rental fee for the right to run the sector. This fee was negotiated based on revenue from collection not the amount

¹³³ "Natural Monopolies."

¹³⁴ Ménard and Clarke pp. 23

¹³⁵ Ibid., p. 23

of water delivered. There was little incentive to reduce the wasted water because it did not impact the company financially.¹³⁶ This goes back to the motives of the companies and privatization schemes as a whole. A company motivated by finances will disregard issue of social and environmental concern as long as their bottom line does not suffer.

Touched upon early was the issue of the government not paying its bills. The lack of payment from the government was significant because it made up 30 percent of total sales. This greatly impacted the ability of the private firm to fund their operations. This lack of payment meant higher prices had to be passed on to the rest of the consumers to cover costs.¹³⁷ While SEEG had the contractual right to cut off anyone who does not pay their bills for three consecutive months, they continued to supply the government with water. This is because SEEG needed the government. The interrelated nature of SONEG and SEEG means that the government had great control over the decisions made and thus has some level of power over SEEG's decision making.¹³⁸

Water Sector Today

The overall results of the water privatization in Guinea were positive, but issues in the format of the contract between SONEG and SEEG, as well as supply issues, hurt the overall success of program. Additionally, while there were upgrades across the water sector, these improvements came at an unacceptably high cost to the consumers.

What cannot be denied is that significant investment from the World Bank, and other development organizations, greatly improved the infrastructure and subsequently the delivery of

¹³⁶ Ibid., p. 34

¹³⁷ Ibid., p. 35

¹³⁸ Bayliss, p. 8

water services in the city. While the initial results were mostly positive, over time the relationship between the government and private operator broke down. There was an attempt to extend the contract, but disagreements over changes in the expectations for each party caused the negotiations to fail. In 2001, SAUR and Vivendi sold their shares of SEEG and the sector reverted to complete government control. The government merged SONEG and SEEG into the Société des Eaux de Guinée (SEG).

After the privatization ended, the sector began to experience problems. Interrupted water supply has become common and the sector is financially unstable and close to bankrupt. Finally, as seen prior to privatization, the rapid urbanization in Conakry has caused the percentage of the population with access to a piped connection to decrease from 31 percent in 1990 to 28 percent in 2004.¹³⁹ This case shows that privatization can have a great influence on water services but that these improvements will not be sustainable if the cost to consumers greatly increases.

¹³⁹ Fall, Matar, et al. *Reforming Urban Water Utilities in Western and Central Africa: Experiences with Public-Private Partnerships*. Rep. no. 48730 V2. The World Bank, June 2009. 33. Web. 28 Apr. 2013. <http://www-wds.worldbank.org/servlet/WDSContentServer/IW3P/IB/2009/06/03/000333037_20090603000913/Rendered/PDF/487300NWP00v201P131PPPWestAfrica1v2.pdf>.

Case Two: Water Privatization in Senegal

Water Sector Prior to Privatization

Unlike Guinea, the Republic of Senegal is much drier and does not have as abundant a level of rainfall or lie on a plentiful aqueduct. The major sources of water are the Senegal and Gambia Rivers, but the water levels have been dropping annually. While some regions do have access to sufficient groundwater, over utilization has resulted in increased salinization, and an inability to use the resource. Water wells are often used in urban areas, but the lack of adequate sanitation means some wells have been contaminated, resulting in people drinking unsafe water.¹⁴⁰

With these issues, it was clear something needed to change in order to provide the urban citizens of Senegal with clean and plentiful water. Privatization of water resources was not a new concept in Senegal when reform occurred in 1995. When Senegal gained independence from France in 1960, the country's urban water was controlled by Générale des Eaux (Vivendi). This private sector control continued until 1971 when the government nationalized the sector.¹⁴¹

During the 1970s and 1980s, the sector experienced numerous issues both in terms of management and delivery. It was decided in 1983 to form a public utility, Société Nationale d'Exploitation des Eaux du Sénégal (SONEES), which would be responsible for running the

¹⁴⁰ *Staff Appraisal Report Republic Water Sector Project*. Rep. no. 14008-SE. The World Bank, 12 June 1995. 2-4. Web. 28 Apr. 2013. <http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/1995/06/12/000009265_3961019111457/Rendered/PDF/multi0page.pdf>.

¹⁴¹ Brocklehurst, Clarissa, and Jan G. Janssens. *Innovative Contracts, Sound Relationships: Urban Water Sector Reform in Senegal*. Publication no. 30947. The World Bank, Jan. 2004. 2. Web. 28 Apr. 2013. <http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2004/12/16/000090341_20041216144628/Rendered/PDF/309470WSS0no1011Senegal01public1.pdf>.

sector.¹⁴² Under a public utility, the government contracts out the service to a business that provides everyday necessities, and is subject to government regulation. The need for government regulation is that most public utilities hold monopoly power over the good they are providing.¹⁴³ It was hoped that the creation of SONEES, guided by business principles, would help improve water production and deliver in the country.

SONEES was responsible for service deliver to the capital city of Dakar, and 41 other towns that all had populations over 5,000 people. This accounted for roughly 90 percent of the total urban population of Senegal.¹⁴⁴ Prior to privatization, less than 56 percent of the 2.4 million people living in the Dakar metropolitan area had access to water from SONEES. Those with water connections were not guaranteed access for a full 24 hours a day.¹⁴⁵ In fact, due to a shortage of 82,000 m³/day, water was only supplied for 16 hours a day on average. Pair this with 27 percent of water produced being lost through theft or leakage, and the sector was clearly in need of reform.¹⁴⁶

While contracting the service to a public utility did improve some aspects of the sector, there were still numerous management issues that limited SONEES. The government's decision to heavily regulate SONEES's activities meant that the company was limited in its ability to provide the service to all those in need. This lack of sovereignty meant that SONEES couldn't set water rates, plan improvements, or push public agencies to pay their bills without input from

¹⁴² Ibid., p. 3

¹⁴³ "Public Utility." *Encyclopedia Britannica*. Encyclopedia Britannica Online Academic Edition, 2013. Web. 28 Apr. 2013. <<http://www.britannica.com/EBchecked/topic/482523/public-utility>>.

¹⁴⁴ Brocklehurst and Janssens, p. 4

¹⁴⁵ *Dakar, Senegal*. Case Study. UNDP - Special Unit for South-South Cooperation, Nov. 2012. 2. Web. 28 Apr. 2013. <http://www.esc-pau.fr/ppp/documents/featured_projects/senegal.pdf>.

¹⁴⁶ Brocklehurst and Janssens, p. 4

the government.¹⁴⁷ It was this need for independence, as well as water delivery problems, which illustrated the need for reform.

Privatization Model

When it was decided that the sector would be privatized, a committee was created to complete evaluations of past water privatization schemes, in order to assess the best option for Senegal's needs. The committee was made up of the offices of the President, Prime Minister, and officials with some connection to water resources in the country.¹⁴⁸ This is a key component of Senegal's privatization process because the officials were attempting to learn everything about the process and potential pitfalls prior to their own implementation.

Guided by recommendations from the committee, SONEES was broken up. In its place, a State Asset Holding Company, Société Nationale des Eaux du Sénégal (SONES), was created to serve as the owner of the sector assets as well as to plan and implement all large investments. Additionally, a private operating company, Sénégalaise des Eaux (SDE), was formed to run the daily operations. SDE was owned by numerous parties including the majority owning French, private company SAUR which won the international bidding process with a proposed supply rate of 236 CFA per cubic meter. Ownership of SDE was broken up with SAUR owning 57.84 percent, Senegalese investors 32.16 percent, the State five percent, and former SONEES staff five percent.¹⁴⁹

¹⁴⁷ Brocklehurst and Janssens, p. 3

¹⁴⁸ Jammal, Yahya, and Leroy Jones. *Impact of Privatization in Africa: Senegal Water*. Publication. Boston Institute for Developing Economies, Oct. 2006. 4. Web. 28 Apr. 2013.
<<http://siteresources.worldbank.org/EXTNTFPSI/Resources/SenegalWater.pdf>>.

¹⁴⁹ Brocklehurst and Janssens, p. 18

By creating a State Asset Holding Company, the government was able to show the people that they were not simply handing over the sector to private ownership, but rather that they were being active participants in the process. Additionally, the responsibilities of the State Asset Holding Company, and the private company, were clearly defined which was deemed important to ensure there were no arguments over duties once the project began.

Contracts were set to ensure that all interactions between the different parties went smoothly. SONES signed a 30 year concession contract, and a sector development contract, which outlined investment responsibilities. SDE signed a performance contract with SONES, outlining each firm's responsibilities, and provided incentives for demonstrated improvements. Finally, the two firms and the Republic of Senegal all signed a 10 year affermage contract which will be discussed below.¹⁵⁰ A table illustrating the contracts and relationships between the different groups can be found in the appendix labeled as Chart Three.

Under the chosen affermage contract the asset holder takes on all investment responsibility and, "the private operator is responsible for collecting the water user fees from the individual customers and will retain for itself an amount specified in the contract which generally covers its operating costs and agreed upon profit".¹⁵¹ Like in Guinea, the private operator is responsible for managing the sector and is paid for this service. The difference between the lease contract in Guinea, and the affermage contract in Senegal, is the level of risk taken on by the private operator. Under a lease contract, the amount paid to the asset holder is set, and the private operator holds the risk depending on how much revenue is produced. Under an affermage

¹⁵⁰ Ibid., p. 14

¹⁵¹ Dakar, Senegal, p. 7

contract, the private operator is guaranteed the agreed upon fee, and it is the asset holder who takes on the risk for the amount of revenue produced.¹⁵²

In addition to the issue of risk, there are a few reasons as to why this type of contract would be chosen. First, the asset holder has complete control of the rate structure which ensures that citizens are not being overcharged solely for the benefit of the private operator. Also, an affermage contract is especially appealing because limited outside regulation is needed in order to sustain the project. Much of the needed regulation comes from the guidelines within the contract.¹⁵³ This is significant because it allows for each party to achieve its own expectations without much interference. On the other hand, it could result in future issues regarding who to address with complaints. Finally, an affermage contract does not require large scale investment from a private operator. The government had no need for extra investment, as they had already secured enough from donors and done so at a lower cost than would have been possible from the private sector.¹⁵⁴

Along with the affermage contract, there was also a performance contract. In addition to the normal payment set up under the affermage contract, a formula was created to include incentives for SDE. First, there was the measure of technical efficiency which was used to help reduce UFW to 15 percent within five years. The second incentive was to improve bill collection to 97 percent by year three.¹⁵⁵ This was important because it gave the private operator incentive to improve two of the greatest problems plaguing the sector. Without these incentives, SDE would be paid their guaranteed fee regardless of whether or not there were improvements in the water sector.

¹⁵² "Leases and Affermage Contracts." *Public Private Partnerships in Infrastructure*. The World Bank, 2011. Web. 28 Apr. 2013. <<http://ppp.worldbank.org/public-private-partnership/agreements/leases-and-affermage-contracts>>.

¹⁵³ Brocklehurst and Janssens, p. 7

¹⁵⁴ Ibid., p. 9

¹⁵⁵ Ibid., p. 16-17

One of the main goals of the project was to achieve long-term financial stability. This was to be achieved through the use of an intricate financial model. The model was created by Ernst and Young with help from the World Bank. With the model, the parties involved could test out different scenarios and assess the viability of financial equilibrium being achieved. After numerous attempts, a scenario was found that would achieve equilibrium in 2003 given that the, “World Bank-financed investment project went ahead, network efficiency was improved, and consumer tariffs for water supply were increased at a rate of no more than 3 percent per year.”¹⁵⁶

Even with strong planning, and clearly defined contracts, the privatization would not have been possible without the funds from the World Bank and other development agencies. Below is an outline of the support provided for this project.

Financing Privatization

Without support from outside donors, reform would not have been possible. Originally, the World Bank planned to provide funding to increase the amount of water that could be delivered to Dakar from the Ngnith plant, but that was seen as pointless with UFW still being high. With that in mind, the Bank provided funding through the *World Bank Water Sector Project* for improvements to both the plant as well as the overall operations of the sector.¹⁵⁷

The International Development Association (IDA), which is the branch of the World Bank that assists developing countries with loans, was the major donor for this project. It provided US \$85 million to SONES of which 45 percent was a loan with the remaining 55 percent as equity. An additional US \$15 million was provided to the Ministry of Hydraulics.¹⁵⁸

¹⁵⁶ Ibid., p. 12

¹⁵⁷ Ibid., p. 5

¹⁵⁸ *Staff Appraisal Report Republic Water Sector Project*, p. iv

The other donors to the project were SONES, The French Fund for Development (CFD), the state of Germany, the Action Group for Community Development (AGCD), the European Investment Bank (EIB), the Nordic Development Fund (NDF), the West African Development Bank (BOAD), and the Arab Bank for Economic Development in Africa (BADEA).¹⁵⁹

The goals of the World Bank project were to improve sustainability, address poverty and health issues, and to involve the private sector in the country's urban water supply.¹⁶⁰ This would be achieved through using the provided funds to rehab existing infrastructure, expand the sector to underserved urban areas, and improve the management of the sector. It was estimated that improvements from this project would benefit 1.8 million people.¹⁶¹

In addition to support from the donor community, the project relied on other financial opportunities to reach the level of funding needed. Using the previously discussed financial model, it was found that there would be a cash shortfall of US \$21 million in 1998 due to planned construction. In order to overcome this issue, three different options were combined. First, SDE had to purchase all operating equipment from SONES. Second, a portion of the financing was structured as equity. This gave investors part-ownership within the sector and meant that the government wouldn't have to pay any debt on the funds as they would have to if the funds were structured as a loan. Finally, SONES received a line of credit from Citibank and Compagnie Bancaire de l'Afrique (CBAO). The ability to attract banks to contribute a line of credit was not only seen as innovative, but it signified that the government, private operator, and project as a whole were trusted and expected to be successful.¹⁶²

¹⁵⁹ Ibid., p. viii

¹⁶⁰ Ibid., p. 20

¹⁶¹ Ibid., p. v

¹⁶² Brocklehurst and Janssens, p. 20

Changes After Privatization

With most water privatization projects, the increase in water rates is the most contentious issue. In Senegal, the price of water prior to privatization covered all maintenance and operations costs, but didn't allow for the needed investment to expand the sector. Rather than raising rates for all individuals equally, a system was enacted to form an increasing block tariff. Under this setup, there is a "social tariff" for those consuming under 20 m³/60 days, a "dissuasive tariff" for using more than 100m³/60 days, and then a normal tariff for consumption between these two levels. The reason for this approach is that it will create a cross-subsidy where, "consumption in the higher blocks will generate enough surplus to finance the subsidy delivered to customers consuming water in the lowest 'lifeline' block..."¹⁶³

Prior to privatization, there were two large price hikes: one in 1992 and another in 1994. Since 1996, when privatization was implemented, the nominal rates have increased at an average annual rate of 3.5 percent, but only 2.1 percent when viewed in real terms.¹⁶⁴ These increases were low in part because the water rates charged prior to privatization already covered the day to day costs of the sector. Additionally, the low increase in water rates reflected the strong planning prior to privatization, and the government's reliance on the financial model for justifying any changes in the water rates. While it was important to keep consumer prices relatively close to the rates charged prior to privatization, there is some concern about the future of the sector. If the revenue brought in only covers operational and delivery costs, Senegal will continue to need to rely on the donor community for funding for future investments.¹⁶⁵ While the donor community has been extremely helpful up to this point, the government and the water sector should not become reliant on it because there is no guarantee it will always be provided.

¹⁶³ Ibid., p. 25

¹⁶⁴ Jammal and Jones, p. 12

¹⁶⁵ Dakar, Senegal, p. 11

Even with only slight price increases, there must be improvements in numerous other areas for the privatization to be deemed beneficial to the consumers. One area is the quantity of water available to consumers. Due to the improvements from privatization, the water supply increased by 18 percent from 264,000 m³/day to 312,000 m³/day between 1996 and 2003.¹⁶⁶ During this period, 81,000 households were connected to the sector, and 400 standpipes were constructed.¹⁶⁷ The greatest reason for this increased availability was the construction of the Ngnith plant, located on Lac de Guiers (Lake Guiers), and the 150 kilometer pipeline connecting it to Dakar.¹⁶⁸

Another area that is often a negative outcome of privatization is the impact on workers. Often public utilities are overstaffed, and a private company comes in and cuts employees for the sake of efficiency. A study found that employment by SDE and SONES did decline but that the losses were, “not accomplished by lay-offs but by natural attrition”.¹⁶⁹ Those who were still employed found that payment increased after privatization, but at a much smaller rate than prior to reform. Prior to reform, wages and benefits were increasing at 20.5 percent (15.3 percent in real terms). After reform, wages and benefits increased by 4.8 percent (3.3 percent in real terms).¹⁷⁰ A reason for the relatively good outcome for employees was twofold. First, the original public utility SONEES was not greatly overstaffed prior to privatization, which was rare. Second, part of the planning stage included a clause that all former SONEES staff be retained in

¹⁶⁶ *Implementation Completion Report on a Credit in the Amount of SDR 63.5 Million to the Republic of Senegal for a Water Sector Project*. Rep. The World Bank, 21 Dec. 2004. 8. Web. 28 Apr. 2013. <http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2005/01/12/000009486_20050112094450/Rend ered/PDF/30800.pdf>.

¹⁶⁷ Dakar, Senegal, p. 1

¹⁶⁸ Brocklehurst and Janssens, p. 5

¹⁶⁹ Jammal and Jones, p. 22

¹⁷⁰ Jammal and Jones, p. 23

some capacity after reform took place.¹⁷¹ While the overall benefits to employees have been positive, there still have been some issues that have yet to be resolved. Most notably, the stipulation that all SONEES employees had to be retained in fact caused some frustration. Those employees who did not receive jobs working for SDE, but instead gained employment with SONES, are making less money but responsible for overseeing their co-workers. At times this has resulted in difficulty working together, but overall, has not impacted the work of the sector.¹⁷²

A unique aspect of this privatization project was the targets given to the private operator. The first target was to improve technical efficiency from 73 percent to 85 percent. This ended up being extremely challenging because the initial 73 percent baseline was significantly overestimated with the actual figure being much lower. SDE was not able to reach their goal and still had not reached 80 percent by the 2002 target.¹⁷³ The second target of bill collection has been much more successful with SDE meeting, and sustaining, the 97 percent target since 1999.¹⁷⁴ The private operator is compensated financially for meeting these objectives. It is paid the bid price for the water delivered and then either rewarded with a higher price based on achieved objectives or a reduced price for underperforming.¹⁷⁵

With the implementation of privatization, there were financial improvements for both the public and private sectors. In the public sector, from 1996 to 2000 SONES recorded losses, but since 2000 those losses have been reduced. Additionally, the cash balance of the public utility

¹⁷¹ Brocklehurst and Janssens, p. 6

¹⁷² Dakar, Senegal, p. 10

¹⁷³ Brocklehurst and Janssens, p. 30-31

¹⁷⁴ Ibid., p. 31

¹⁷⁵ Jammal and Jones, p. 42

has been positive since 1996.¹⁷⁶ SDE also performed well. After initial issues in the first few years of service, SDE has recorded profits since 1999.¹⁷⁷

It is important to point out there was potentially a major problem with the project that was averted through cooperation and negotiations. As previously stated, the technical efficiency starting point was overestimated. This made achieving the target even more difficult, and hurt SDE financially. This issue was resolved when in 1998 SONES and SDE came together and were able to renegotiate the targets. This in effect reduced the base year figure and subsequent targets. For payment, SDE is paid their base figure and then they either earn or are fined based on whether or not it meets the targets. Due to incorrect targets, SDE was wrongfully fined and this hurt their financial performance. When the targets were re-negotiated, SDE went from recording losses to continued profit.¹⁷⁸

The fact that the two parties could come to these recalculations and settle all monetary issues without hostility or the need of outside regulators is extremely important for future projects. All too often, when times get tough parties that should be working towards the same goal fracture and divide. This project shows that it is possible for a company to put its personal interests aside, and work towards the greater goal of the project. This is possible while still making good business decisions.

Addressing the Needs of the Poor

A major concern of people opposed to private sector participation is that it disproportionately hurts the poor. The poor often cannot afford the increase in price, both in

¹⁷⁶ Brocklehurst and Janssens, p. 23-24

¹⁷⁷ Ibid., p. 33

¹⁷⁸ Ibid., p. 33

terms of delivery and connection costs. The privatization scheme in Senegal made a direct effort to address the needs of the poorest citizens.

The government has come up with three ways to address the water needs of the poor. First, as discussed in the section of water tariffs, they have created a “social tariff” which delivers water at a reduced cost to those consuming small amounts of water. The second policy subsidizes the cost of connecting to the water system through a “social connection program”. Finally, the government has built standpipes in areas of higher poverty that supply water at a lower rate (although not as low as if they had access to their own pipe).¹⁷⁹ The government has shown an understanding of the special challenges the poor face, and the need to create policies that take into account their financial situation. A major factor in the success of these initiatives was the contract format that pays SDE their fee based on water distributed. This means there was no disincentive to provide water to the poor.¹⁸⁰

The criticism of these policies focuses on the social connection program. The policy in fact ensures that the poorest, and greatest in need, cannot gain access to this program. To be eligible for a reduced rate connection someone must, “have title to the land, and an existing house must be located on it.”¹⁸¹ The poorest of the poor do may not be able to meet these needs and thus are ineligible. A reduction in the requirements would allow for the policy to reach more people and especially those who could benefit the most from the program.

Water Sector Today

The *World Bank Water Sector Project* was scheduled to close on June 30, 2001 but was extended twice, and eventually ended on June 30, 2004. The major reason for this delay was that

¹⁷⁹ Ibid., p. 37

¹⁸⁰ Dakar, Senegal, p. 11

¹⁸¹ Brocklehurst and Janssens, p. 42

the exchange rate between the US dollar and the Senegalese CFA changed between the planning and implementation phases, which resulted in savings that could be utilized.¹⁸² While the World Bank funding came to an end, the privatization has continued and has been one of the most successful projects of its kind. The format of this scheme has been carried out in other countries and has served as a model for the best way to carry out the implementation of private sector involvement in a country's water sector. The results have continued as 76 percent of urban households now have access to water which is the highest level in all of SSA.¹⁸³ If there is a return to an emphasis on water privatization for addressing global water issues, Senegal serves as a strong model for duplication.

¹⁸² *Implementation Completion Report on a Credit in the Amount of SDR 63.5 Million to the Republic of Senegal for a Water Sector Project*, p. 13

¹⁸³ *Sanitation and Water Supply*. Rep. International Development Association, n.d. 5. Web. 28 Apr. 2013. <<http://siteresources.worldbank.org/IDA/Resources/IDA-Sanitation-WaterSupply.pdf>>.

Case Three: Water Privatization in Ghana

Water Sector Prior to Privatization

Ghana was the first country in SSA to gain independence in 1957. After independence, the Ministry of Works and Housing (MWH) created a Water Supply Division in order to provide water to both the rural and urban populations across the country. This existed until 1965 when the Ghana Water and Sewerage Corporation (GWSC) was created in order to meet the water and sanitation needs of the country.¹⁸⁴ The hope was that by creating a business to run the water supply sector, operations would become more efficient and service would improve. In reality, GWSC had a difficult time delivering the service, and there were many issues with the sector. From 1970 to 1990, “one-third of the facilities had broken down and the rest operated below design capacity.”¹⁸⁵ Additionally, between 1992 and 2002, urban water coverage dropped from 76 percent to 59 percent while UFW stood at 50 percent.¹⁸⁶ These negative results signaled the need for sector reform.

GWSC continued to be the sole provider of water until 1994 when rural and urban water supply was separated as suggested by the World Bank. In its place, two new companies were created. The Community Water and Sanitation Agency (CWSA) was responsible for rural water supply, and Ghana Water Company Ltd (GWCL) was created to meet urban water needs.¹⁸⁷ The World Bank knew that there was a great economic incentive to have the urban water supply

¹⁸⁴ Fuest, Veronika, and Stefan A. Haffner. *PPP – Policies, Practices and Problems in Ghana's Urban Water Supply*. Publication. N.p., 15 Nov. 2005. 172. Web. 28 Apr. 2013. <http://www.glowa-volta.de/fileadmin/template/Glowa/Downloads/Fuest_Haffner_2007.pdf>.

¹⁸⁵ Ibid., p. 173

¹⁸⁶ Ibid., p. 173

¹⁸⁷ McDonald, David A., and Greg Ruiters. *The Age of Commodity: Water Privatization in Southern Africa*. London: Earthscan, 2005. 279. Print.

separated from the rural sector.¹⁸⁸ By separating the two, the potentially profitable urban sector would be independent of the unprofitable rural sector. It was after this decision was made that the push to privatize the urban water supply began. In February of 1995, a group of consultants were brought in to plan out the best option for the sector. It was determined that a lease contract would be the best avenue for reform.¹⁸⁹ Under this contract type, the private operator would have been responsible for, “providing the water supply, rehabilitating and renewing pipes, maintaining assets, billing and collecting tariffs, and expanding service coverage.”¹⁹⁰

In 1997, the Government of Ghana created the Public Utility Regulatory Commission (PURC), “to ensure appropriate regulation in the water and electricity sectors.”¹⁹¹ While regulation is vital, especially when dealing with a natural monopoly such as water, the commission’s autonomy was weak as there was great pressure from the World Bank and IMF. The IMF pushed for PURC to prepare the sector to operate at a level of full cost recovery. This was done through the creation of an “automatic tariff adjustment mechanism” which would automatically change water rates based on shifts in Ghana’s currency. Due to the fact that Ghana’s currency depreciated far more than it appreciated, this meant prices were expected to continuously increase.¹⁹²

After the consultant’s proposals were presented in 1995, it took until 1998 to complete the project outline, and prepare for bids to be called. It was during this time that opposition from within the country began to grow. In 1999, the Ministry of Housing and Works moved forward with plans to work with the private United States company, Azurix, as the private operator. The

¹⁸⁸ *World Bank Conditionality in Water Sector Privatization Cases from Ghana and the Philippines*. Publication. Canadian Catholic Organization for Development and Peace, June 2005. 17-18 Web. 28 Apr. 2013. <<http://www.bvsde.paho.org/bvsacd/cd27/wb-report.pdf>>.

¹⁸⁹ Ibid., p. 20

¹⁹⁰ Ibid., p. 21

¹⁹¹ McDonald and Ruiters, p. 280

¹⁹² Ibid., p. 280

two losing water giants, Suez and Vivendi, believed the process to pick the operator had been corrupt and the project was eventually cancelled after legitimate concern over Azurix having provided US \$5 million in bribes to Ghanaian politicians.¹⁹³

With another failed attempt at privatization, the public opposition to the proposal grew more vocal. While individually many people had been upset since the initial privatization attempts, it was not until 2001 when groups from across Ghanaian society came together and formed the Ghana National Coalition Against the Privatization of Water (National CAP of Water). The group's goal was to, "defend water as a public good and a human right, to build public awareness of the water privatization proposal, and to mobilize a broad cross-section of society to oppose the privatization of water."¹⁹⁴

The group was greatly successful in bringing both national and international attention to the privatization proposal in Ghana. There were a few reasons as to why they found success. First, due to rapid urbanization, the percentage of the urban population with access to an adequate water source has decreased over the past twenty years. While one would expect these declines to lead to increased spending in order to address the deficiency, the opposite was in fact true. Debt owed to the IMF and World Bank meant that the government had to decrease their spending and thus the lack of urban water access only increased.¹⁹⁵ The country's poor financial performance led to sector investments dropping as low as US \$1.50 per capita per year.¹⁹⁶ Another reason the group was successful was that even though access was decreasing, the

¹⁹³ Ibid., p. 278

¹⁹⁴ Ibid., p. 280-81

¹⁹⁵ Ibid., p. 283

¹⁹⁶ *Project Information Document*. Rep. no. AB423. The World Bank, 23 Sept. 2004. 1. Web. 28 Apr. 2013.

<[\[http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2004/04/26/000104615_20040427151313/Rend\]\(http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2004/04/26/000104615_20040427151313/Rend\)
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prospect of privatization led to increased prices. As part of the country's loan conditions, the government was required to increase the water rates by 95 percent in order to move towards full cost recovery.¹⁹⁷ Decreased access, coupled with unaffordable prices, led to an overall distrust of the World Bank/IMF and anger over the decision to move forward with water privatization.

The National CAP of Water's ability to bring together people from across society, as well as experts from around the world, resulted in a brief victory. In 2003, the government announced that they would be suspending the privatization as the public opposition, as well as changes in the terms of the project, made the project undesirable.¹⁹⁸ While the victory was short lived, and privatization eventually moved forward, this story of public opposition illustrates an important lesson for future projects. Strong public opposition makes governments wary of implementing projects due to the potential political fallout as well as negative international attention.

Governments and the World Bank would be well advised to consult public groups about their needs prior to embarking on a large scale project.

After this brief cancellation, the next attempt at privatization was in 2004 and success was vital. At the time, the population of Ghana stood at 20 million people, and it was estimated that 10.3 million, or 51 percent, had access to an improved water source. Additionally, of the 8.4 million citizens who live in urban areas, only 61 percent had access to improved water.¹⁹⁹ An improved water source is defined as being, “protected from outside contamination, in particular from contamination with faecal matter.”²⁰⁰ A level of 61 percent coverage is low but especially

¹⁹⁷ McDonald and Ruiters, p. 281

¹⁹⁸ Ibid., p. 286

¹⁹⁹ *Project Appraisal Document on the Proposed Credit in the Amount of SDR 71 Million to the Republic of Ghana for an Urban Water Project*. Rep. no. 28557-GH. The World Bank, 1 July 2004. 1. Web. 28 Apr. 2013.

<[http://www-](http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2004/07/12/000090341_20040712101848/Rended/PDF/285570GH.pdf)

[wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2004/07/12/000090341_20040712101848/Rended/PDF/285570GH.pdf](http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2004/07/12/000090341_20040712101848/Rended/PDF/285570GH.pdf)>.

²⁰⁰ "Introduction."

worrisome because urban water coverage stood at 70 percent in 2001 and even higher at 76 percent in 1992.²⁰¹ The growing population without access to an adequate water source was negatively impacted in numerous ways. Most notably, UNICEF found that in 2003, 70 percent of all disease in Ghana was related to lack of adequate water and sanitation.²⁰² As time went on, the water sector was getting worse, and there seemed to be no other viable solution than to finally privatize the sector.

Privatization Model

It was during the 2004 attempt at privatization that headway was finally achieved. While previous attempts had suggested a lease contract, it was eventually decided on a five year management contract to cover 80 urban areas. The lease contract option was deemed undesirable by private operators because of the high level of investment that they would be responsible to supply.²⁰³ The greatest change with the move from a lease to a management contract was that outside investment went from the original proposal of US \$140 million fell to zero with all investment coming from the public asset holder through the World Bank.²⁰⁴

Under the management contract, the private operator was responsible for operating the sector and achieving goals laid out in the contract but was not required to provide financial investments.²⁰⁵ In return for successful operation, the operator would be paid by the World Bank for the first four years. During the final year, payment would come 75 percent from the World

²⁰¹ *World Bank Conditionality in Water Sector Privatization Cases from Ghana and the Philippines*, p. 16

²⁰² McDonald and Ruiters, p. 283

²⁰³ *World Bank Conditionality in Water Sector Privatization Cases from Ghana and the Philippines*, p. 21

²⁰⁴ McDonald and Ruiters, p. 286

²⁰⁵ Barendrecht, Anne, and Martin Nisse. *Management Contract 2006-2011 for Urban Water Supply in Ghana A Partnership – in and for – Development*. N.p.: n.p., n.d. Vitens Evides. 17. Web.

Bank and 25 percent from funds derived from the improved sector.²⁰⁶ With all capital coming from the World Bank, rather than the private sector, the contract allowed for the private company to make money with limited risk. As long as it met the specified goals, the operator would be meeting its end of the contract.

When it was decided to go ahead with a management contract, a private company had to be selected to run the sector. The operator selected was a consortium of Vitens Evides International and Rand Water. Vitens Evides International is composed of the two largest water companies (Vitens and Evides) in the Netherlands and has a stated mission of supplying the, “increasing number of people in developing countries with sustainable access to safe and reliable drinking water services.”²⁰⁷ This is important to note because they are the only water company involved in any of the three case studies that has a social mission that sees their goal as helping the people of the developing countries who need water services. The other private operators all understood they were helping expand a country's water services, but treated their jobs as business first. Rand Water is a South African company that is the largest bulk water provider in Africa.²⁰⁸ It is the only African company that was utilized in the countries presented in the three case studies. The two companies came together and formed Aqua Vitens Rand Limited (AVRL).

Financing Privatization

The renewed attempt to privatize Ghana's urban water supply would not have been possible had it not been for the support of the World Bank. While privatization had failed in past attempts, the growing needs of the sector, and the lack of investment interest from the private

²⁰⁶ *World Bank Conditionality in Water Sector Privatization Cases from Ghana and the Philippines*, p. 21

²⁰⁷ Barendrecht and Nisse, p. 9

²⁰⁸ *Ibid.*, p. 9

sector, made it a good time for the World Bank to offer a large investment opportunity. The 2004 *Urban Water Project* proposal outlined two goals. The first goal was to improve access to water in urban areas. There was a special emphasis on improving the access, affordability, and reliability to clean water to the poor. The second goal was to improve the GWCL in terms of their finances and capacity.²⁰⁹ In order to achieve these goals, the World Bank offered a credit of US \$103 million with additional support from other development agencies. The money was allocated for network expansion, improvements to existing infrastructure, development of a public-private partnership, improved capacity building and management, and policy reform which most notably involved cost cutting within GWCL.²¹⁰

The fact that the financing for improvements came completely from the World Bank illustrated the shift in thinking that resulted from failed privatizations of the 1990s. While the initial attempts to privatize the urban water supply in Ghana had proposed a lease agreement in which investment would come from the private sector, the decision was made to switch to a management contract because the private sector no longer believed that they could successfully complete project objectives in a profitable manner.²¹¹ Having the private sector involved through management of the sector shows that their knowledge and ability to improve efficiency are still valued, but their access to financial capital is no longer necessary or available. If this trend continues, it will force countries to rely even more heavily on the World Bank for financial assistance, and force countries to accept the conditions that come with its support.

²⁰⁹ *Project Appraisal Document on the Proposed Credit in the Amount of SDR 71 Million to the Republic of Ghana for an Urban Water Project*, p. 3

²¹⁰ *Project Information Document*, p. 3

²¹¹ *Project Appraisal Document on the Proposed Credit in the Amount of SDR 71 Million to the Republic of Ghana for an Urban Water Project*, p. 7

Changes After Privatization

The five year management contract was signed on November 22, 2005 and made official on June 6, 2006. Assessing many key areas of the sector has been difficult due to lack of recorded data prior to the project implementation. One of the positive outcomes of private sector participation is that there is now accurate data for the present situation that can act as a baseline for future projects.²¹² While some of the original data is not available, there were some key areas of reform were still able to be assessed.

The area that needed the greatest improvement was unaccounted for water (UFW). In 2006, at the start of the privatization, UFW was estimated to be 53%. The contract laid out a goal of reducing UFW by 5% every year. This was not met, and as of 2010, UFW stood at just under 50%. The operator claims that delays in meter installation and the rehabilitation of existing infrastructure impacted the outcomes.²¹³ This inability to reduce UFW is significant because it reduces available water and hurts the sector financially which are both important aspects of successful management.

While this was the greatest negative outcome of the privatization, there were some improvements as well. One of the major goals of the project was providing water to the poor at affordable costs. While prices did increase as discussed above, an innovative initiative was created to help the urban poor in Ghana. The water company Viteco created “Water For Life” as a separate foundation that allowed their customers to donate to help extend water services to the urban poor. Thus far, over 75,000 people have benefited from this fundraising initiative.²¹⁴

²¹² Barendrecht and Nisse, p. 41

²¹³ Ibid., p. 23-27

²¹⁴ Ibid., p. 39

Additional improvements included an increase in water production, an increase in the number of connections from 364,000 to 438,000, and an increase in revenue from GHC 57 million to GHC 143 million.²¹⁵

Water Sector Today

In 2011, at the end of the five year contract, the government of Ghana did not renew the management contract with AVRIL. The Minister of Water Resources, Works and Housing, Alban Bagbin stated that, "From the evidence on the ground, and also, from the players on the field, Aqua Vitens could not achieve most of the targets that were set for it."²¹⁶ With the failed negotiations, the water sector reverted back to being government owned and operated. While the World Bank continues to push for a return to private sector participation, it remains to be seen what will occur.²¹⁷ While the project did bring some improvements and a great deal of investment to the sector, overall it was a failure. Unlike the previous two case studies, the situation in Ghana is valuable to evaluate because it gives a glimpse into the current state of privatization. Future projects will have to rely on the private sector for knowledge rather than capital. Additionally, meeting the needs and desires of the public citizens will be increasingly important in an age where the ability to mobilize is easier than ever. Moving forward, the government of Ghana has a great deal to do to deliver water to those in need in an affordable and sustainable manner.

²¹⁵ Ibid., p. 41

²¹⁶ Kunateh, Masahudu A. "Ghana: Don't Renew Aqua Vitens Rand Contract." *The Chronicle*. All Africa, 26 Apr. 2011. Web. 28 Apr. 2013.

²¹⁷ Amanthis, Judith. "Ghana Rejects Water Privatization." *Pambazuka News*. On the Commons, n.d. Web. 28 Apr. 2013. <<http://onthecommons.org/magazine/ghana-rejects-water-privatization>>.

Chapter 5: Findings

After completing the case studies of Guinea, Senegal, and Ghana, there are some clear lessons that emerged regarding the viability of privatization as a solution to the global water crisis. While each country has a unique history, population, and set of circumstances, there are some characteristics that have emerged that if present will either improve or hurt the chances of privatization being successful. The final chapter of this paper will discuss these different characteristics, return to the debates on privatization, and give a final view on whether privatization should continue to be utilized by the World Bank and other development organizations as path to improving water access on a global level.

Conditions for Privatization

Planning

One of the key findings of the case studies was the need to plan out the process prior to the implementation of privatization. Senegal represents the model for this condition. As discussed in the previous chapter, Senegal created a committee that evaluated the needs of the sector as well as past water privatization projects in other countries. The agreed upon layout clearly defined each party's responsibilities which led to smoother operations later. Additionally, by taking the time to create the financial model, the government and the private operator could test different scenarios and understand how the sector would operate. In hindsight, this model was accurate and helped eliminate conflict.

While Senegal models the need for proper planning prior to implementation, there are still valuable lessons to be learned from the less successful privatizations in Guinea and Ghana. While in Guinea there was time spent looking at different model options, the greatest issue was

an unclear breakdown of responsibilities. Without clearly defined roles, the asset holder and the private operator had numerous disagreements over their roles. These disagreements hindered the ability of each to do their job and slowed progress. Had the two parties taken the time to clearly define each entity's role, and ensured no overlapping responsibilities, the project would have been more successful and achieved better results.

In Ghana, the project went through an extended planning phase but the government, World Bank, and private operators were never fully on the same page when it came to goals and commitment. Numerous delays in the negotiations, and the continued cancellation and restart of the project, resulted in a poor start. Ghana illustrates that in order for a privatization project to be successful, the planning stages must also be successful. If the project starts disjointed, the disagreements it will be hard to move forward with everyone working towards one common goal.

Moving forward, it is important that the World Bank, national government, and private operator all take the needed time to plan the process prior to implementation. Too rash of a decision to implement private sector support to any degree will hurt the project's chance of success. By taking the time to plan the timeline, responsibilities, and financing the project is more likely to be successful and sustainable.

Contract Type

The countries represented in the three case studies utilized three different contracts: lease, affermage, and management. One contract was not found to be better than another, but rather, a country's needs determined the choice. It is important to note that the current state of privatization will impact the contract options for future projects. Ghana illustrated that due to

past privatization failures, private companies are hesitant to contribute investment funds due to the financial risk associated with privatization. This current state means that concession, lease, and affermage contracts may be less favorable to management contracts.

Regulation

While parties can attempt to plan out every scenario ahead of time, issues may still arise. It is in these instances that a regulator system must be in place in order to resolve disputes. This was an issue in Guinea where there was no independent regulatory body in place. In Senegal, the most successful case, there was also not a regulator body but it was argued that a regulatory system was built into the affermage contract. While this worked well in Senegal, contracts may not be enough regulation for every project, and having an independent regulator in place would ensure at the very least a backup for dispute resolution. While a contract may help to create defined roles and help solve any potential issues, it is best there be a body independent of the government and the private participant(s) that can hear disputes. Finally, it is important that the regulator be completely autonomous in its role. In Ghana, there was an attempted to create a regulatory body with the creation of the Public Utility Regulatory Commission (PURC). Unfortunately, the World Bank and IMF had a good deal of influence on their operations and thus it cannot be seen as a strong regulatory body. If privatization is to reemerge as a focal point of water development policy, it should be stressed that all projects have some form of independent regulator in place. Regulation is vital and can greatly impact the success of a privatization project.

World Bank Project Selection

It is important that the World Bank support privatization projects that will advance the sector rather than only supporting projects that are in seriously poor shape. In some ways, all three of the case studies completed were of countries where the water sector was inefficient and financially unstable. The difference was that the planning done prior helped to set up Senegal to be more successful to privatization. The project was not rushed but rather built up in a way that took into account the financial stability, the public's opinions, goals of each party, and needs of the sector. The World Bank and any other participating development agencies must fully understand, and in some cases improve, a country's water sector so that privatization is seen as a way to advance the operations rather than save it from ruin.

World Bank Financial Support

The World Bank gets a good deal of criticism for pushing countries into privatization. In many of these cases, the targeted country is in dire need of debt forgiveness, or financial support, and cannot challenge the World Bank's conditions. In this respect, the criticisms are just. That being said, it is important to note that without the World Bank, none of these privatization projects would have been possible. The significant investment supplied by the World Bank helped to improve existing infrastructure, build new infrastructure, construct treatment plants, and provide administrative training and support. Even for the projects that eventually failed, the country and the people benefited from these improvements.

Full Cost Recovery

One of the major controversies with privatization is whether pricing water to achieve full cost recovery is necessary for a successful sector. In simple economic terms, full cost recovery is extremely important. To run an operation at any level below where collected revenue is able to meet the day to day needs, as well as hold money in reserve, will eventually lead to a break down. From looking at the three case studies, it is clear that full cost recovery is important, but that it can be achieved in different ways. All three sectors were financially unstable prior to privatization. They were selling water at too low a price to cover daily costs, rehab needs, pay off accumulated debt, and fund future investments. The trouble arose when it became clear that operating at full cost recovery would result in the poorest citizens not being able to afford their water. This was especially evident in Guinea where the end of the government subsidy resulted in exorbitant prices that left many unable to afford their water. There is no question that water operations must be conducted at a level of full cost recovery. In simple business ideology, a business must make enough money to cover its costs. To operate below full cost recovery means the sector will not be able to cover costs. This will result in the sector deteriorating or requiring outside financial support that may not always be available. While operating at full cost recovery is vital, there must also be an accompanying social dimension to projects that ensures the poorest citizens can still afford this vital resource.

Social Dimension

Full cost recovery is necessary, but it should not result in citizens being unable to afford to meet their basic water needs. All water privatization models should take into account the needs of the poor, and create a social dimension to how the sector is run. Again, Senegal

represents the example when it comes to considering the needs of the poor. Senegal implemented a scaled tariff where different levels of consumption were charged different amounts. This created a cross-subsidy where those consuming more were charged more and helped to pay for the lesser charge applied to those using a minimal amount of water. Additionally, while somewhat controversial due to the requirements needed to qualify, the social connection program has allowed for an increase in the number of poor people connected to the water system. This is significant because the cost to connect to the sector can often be too high negating the issue of the subsequent cost of water. The privatization in Ghana also implemented a social program through the private sector's creation of the separate "Water For Life". This venture helped fund the connection cost for the poor but did not help with the cost of water. Full cost recovery is vital because it ensures that the cost of delivering the services, as well as any future improvement cost, are available. A social program is important to ensure that full cost recovery can be successful while ensuring the poorest citizens of the community can still meet their basic needs.

Public Support

An important consideration for future projects is whether or not to include the public into the decision making process that comes with undergoing a privatization process. While none of the three cases sought public inclusion, the privatization in Ghana was greatly influence by public opposition. The ability of the people of Ghana to come together, and speak out against the privatization, helped to delay and bring international attention to the project. In the current state of the world, where internet coverage is expanding, and social media allow for an increased ability to connect, citizens will have an easier time coming together to speak out against privatization. Governments, and private operators, would be smart to include citizens in the

decision making process as a way to gain their support. While the different groups may not see eye to eye on all aspects of the project, understanding, and acknowledging the public sector's needs and concerns would help gain support for the project.

Understanding the Individual Needs of the Sector

The conditions presented above do not guarantee the transformation of a failing water sector to a level of prosperity. Instead, it lays out a few recommendations that were cultivated from the three case studies conducted. It is believed that meeting the above conditions would help improve any future water privatization projects chances for success. Every project, and country, has a unique set of circumstances and should be viewed based on the individual needs. In addition to these conditions, the case studies gave a clearer understanding of some of the debates on private participation in the water sector.

The Debates Over Privatization

Chapter Two ended with the discussion of a few of the debates over the utilization of water privatization. Having conducted the case studies, it is easier to come down on one side or the in terms of the debates.

Efficiency or Profit

The first debate was about whether private sector participation was more efficient or only resulted in the introduction of profit hungry companies. After looking at the case studies we see evidence for both sides of the debate. In Guinea, the sector was more efficient and better run after privatization. This is especially evident when they returned to government control and the

sector reverted to many of its poorly managed ways. We also saw that while better managed, water became so highly priced that people could not afford their water. Senegal shows that the possibility of an efficiently run sector without an over-emphasis on profits. Prices were not increased drastically but the sector was better run. Finally, Ghana gives no evidence to this claim, as the privatization did not bring increased efficiency. It is clear from the Senegal case that is possible to have privatization be more efficient without costs rising excessively in order to satisfy the private operators profit needs. Much depends on working relationship and contract between the private operator and the government. This point on the necessity of a good working relationship goes back to the discussion on thoroughly planning the project prior implementation to ensure all parties are on the same page.

Economic Good or Human Right

The fact that water has a cost associated with deliver automatically requires that it be looked at as an economic good. That being said, the fact that water is vital for human life means that it must also be seen as need. Water should be a human right because it is needed to sustain life. However, human rights are upheld by both national and international law. If water is to be seen as a human right, it must be at the most basic level because most countries do not have the capacity or capital to provide every citizen with this resource. As long as countries are working towards achieving universal coverage, it should not be seen as infringing on citizen's human rights.

Water Pricing

Water pricing is one of the more controversial aspects of privatization because of how great an impact it has on a country's citizens. As discussed previously, the best option is to ensure that a water sector is operating at a level of full cost recovery but accompanied by social programs that ensure that the poorest can still afford water. A level of full cost recovery ensures that the sector is financially stable. This is especially important when the World Bank financing support comes to an end. As long as a social dimension is also included in the final price of water, full cost recovery should not be a major issue.

Impact on Employment

The final debate was about the impact of privatization on employees. Those opposed to privatization argue that the process results in increased unemployment while proponents argue that overtime the unemployed find new jobs due to increased expansion of the sector. The case studies show that most likely there will be an increase in unemployment. The severity of the increase is dependent on the state of the sector prior to reform. Senegal had a limited increase in unemployment because the water sector was already operating at an efficient level. This is rare and for most public sectors in developing countries they are operating an inefficient level and will see an increase in unemployment. These cuts most often lead to increased efficiency. Guinea cut 149 workers and both connections per worker and output per worker improved. While the increase in unemployment hurts those involved, it makes the sector more financially stable and more efficient in terms of operation. Implementing a program to help train terminated employees for other careers could help lessen the social burden of such needed cuts.

Conclusion

The overarching question guiding this thesis was: is water privatization a bad model that perpetuates poverty, or a model that if altered, could serve as the panacea for the global water crisis? As with many questions it is not a simple answer.

Chapter One outlined the gravity of the problem. With lack of accessible water impacting so many people, the need for a large, concentrated effort to bring improvements is vital. Chapter Two looked at the history of privatization to assess why the process was believed to be the solution to developing countries failing water sectors. Chapter Three looked at the major players in the privatization process in order to assess participant's motives. Chapter Four conducted three case studies of Guinea, Senegal, and Ghana in order to learn from their privatization processes. Finally, Chapter Five took the information learned from Chapter Four and suggested conditions that needed to be satisfied in order to set up a successful privatization.

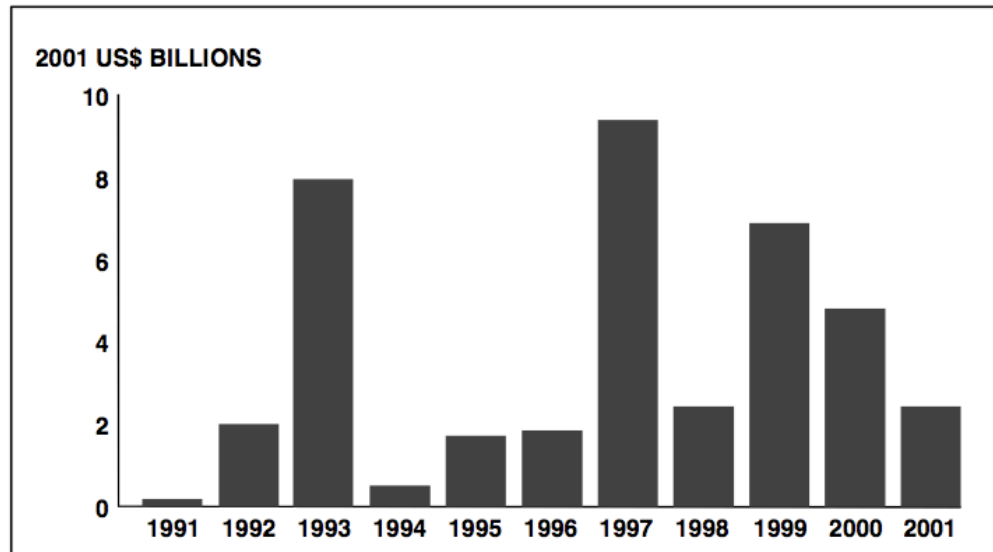
The five chapters resulted in a belief that privatization will not single handedly solve the global water crisis but could have a big impact especially in urban areas. For urban citizens, lacking efficient and reliable access to water, privatization can bring the needed investment and infrastructure to improve the sector enough to meet their needs. Water privatization is only viable in urban areas where the expected economic return is high enough to attract private sector support. Rural areas have the greatest need for improved access to water and thus privatization cannot be seen as the solution to the water crisis. Rather than looking at privatization as an all encompassing solution, it should be viewed as a tool that can help improve the urban water sector, and that will be most successful given that the previous mentioned conditions are met.

Moving forward, past failures will limit the amount of capital available from the hesitant private sector. It will take increased support from the World Bank, and other development

agencies, to provide the financial investment and attract private sector participation. From there, parties must be willing to build the sector up to successful accept the privatization and then work together to reach specific common goals. The poor history of privatization projects means the process should be viewed with hesitation, but also with the understanding that under the right circumstances, the process can greatly help a sector and the urban citizens of a country that is in need.

Appendix

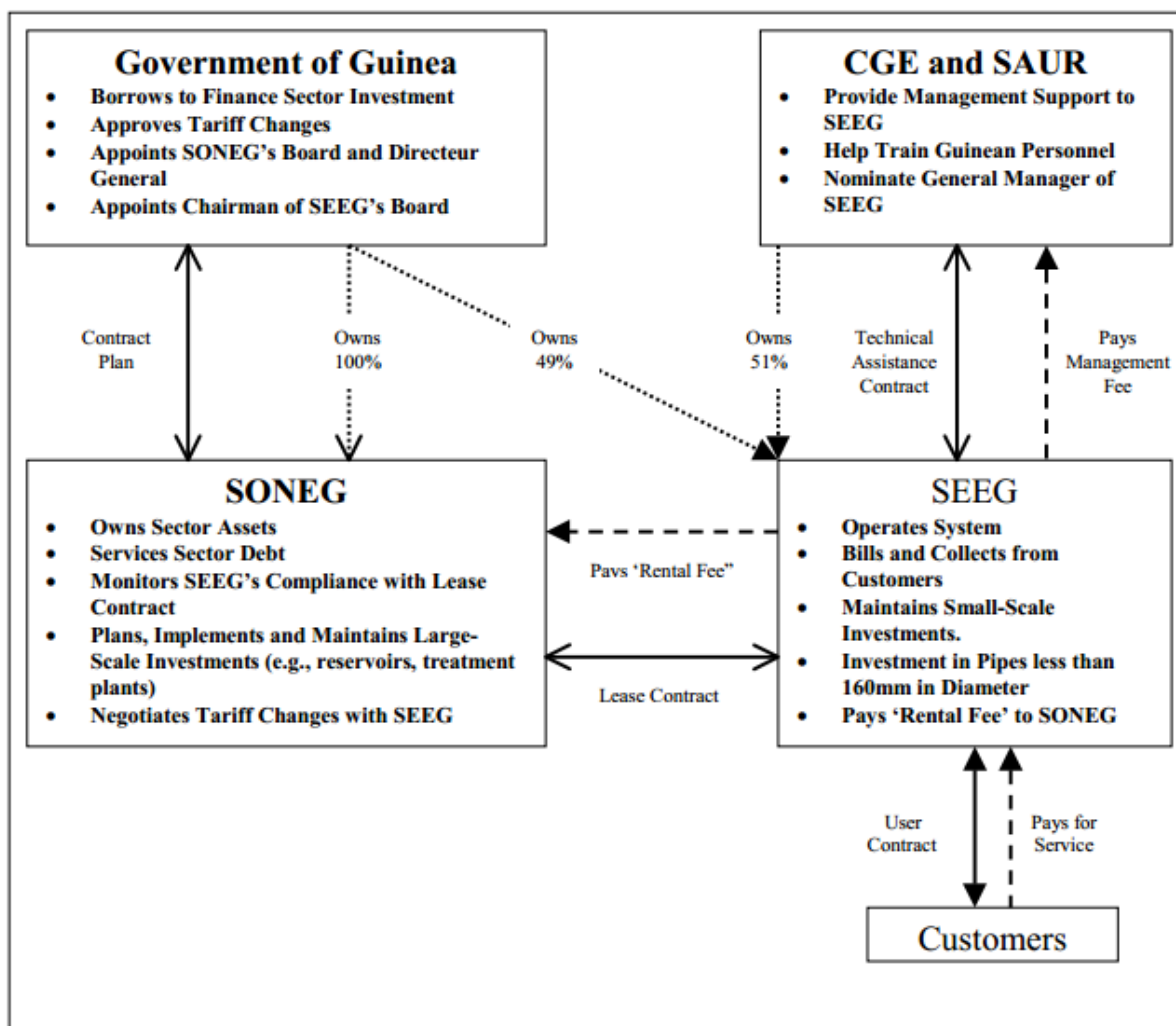
Chart One



Hukka, J.J., and T.S. Katko. *Water Privatisation Revisited*. Publication. IRC International Water and Sanitation Centre, 2003. 91. Web. 28 Apr. 2013. <http://www.bvsde.paho.org/bvsacd/cd51/op_priv.pdf>.

Chart One shows the total investment in water and sewage projects between 1991 and 2001. As is stated in the text, water privatization peaked in 1997 and then fell. *Referenced on page 21*

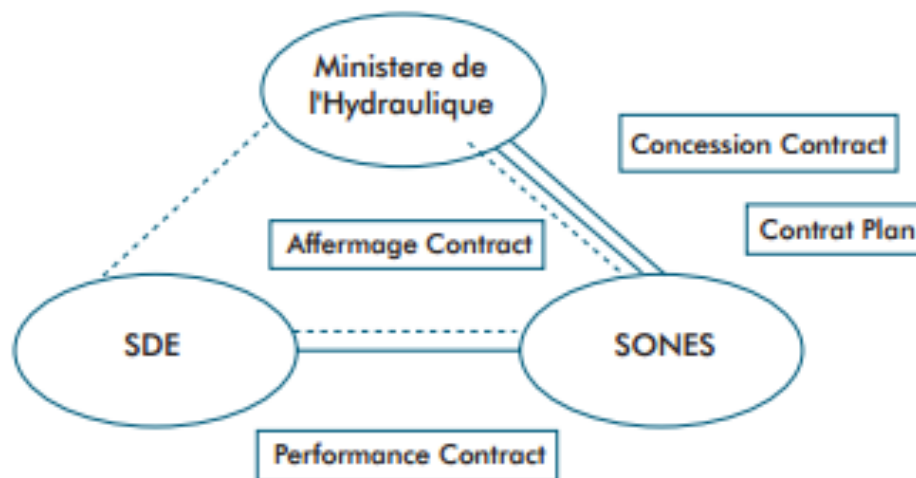
Chart Two



Ménard, Claude, and George Clarke. *A Transitory Regime Water Supply in Conakry, Guinea*. Publication. The World Bank, Nov. 1999. 20. Web. 28 Apr. 2013.

Chart Two shows the relationship between SONEG, SEEG, the Government, and the private company for the Guinea water privatization. The most important contract is the lease contract between SONEG and SEEG. It is also important to note that the private consortium owns 51percent of SEEG with the government owning the minority 49 percent. *Referenced on page 45.*

Chart Three



Brocklehurst, Clarissa, and Jan G. Janssens. *Innovative Contracts, Sound Relationships: Urban Water Sector Reform in Senegal*. Publication no. 30947. The World Bank, Jan. 2004. 14. Web. 28 Apr. 2013. <http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2004/12/16/000090341_20041216144628/Rendered/PDF/309470WSS0no1011Senegal01public1.pdf>.

Chart Three shows the relationships and contracts present in the Senegal water privatization.

SONES is the State Asset Holding Company and the French water company SAUR owns majority stake in SEEG. SONES and SEEG work under a performance contract. SONES and the government signed a 30 year concession contract which granted them the right to run the sector.

Finally, all three signed a ten year affermage contract. *Referenced on page 56*

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